



Columbia University
Bulletin of Information

BARNARD COLLEGE

ANNOUNCEMENT

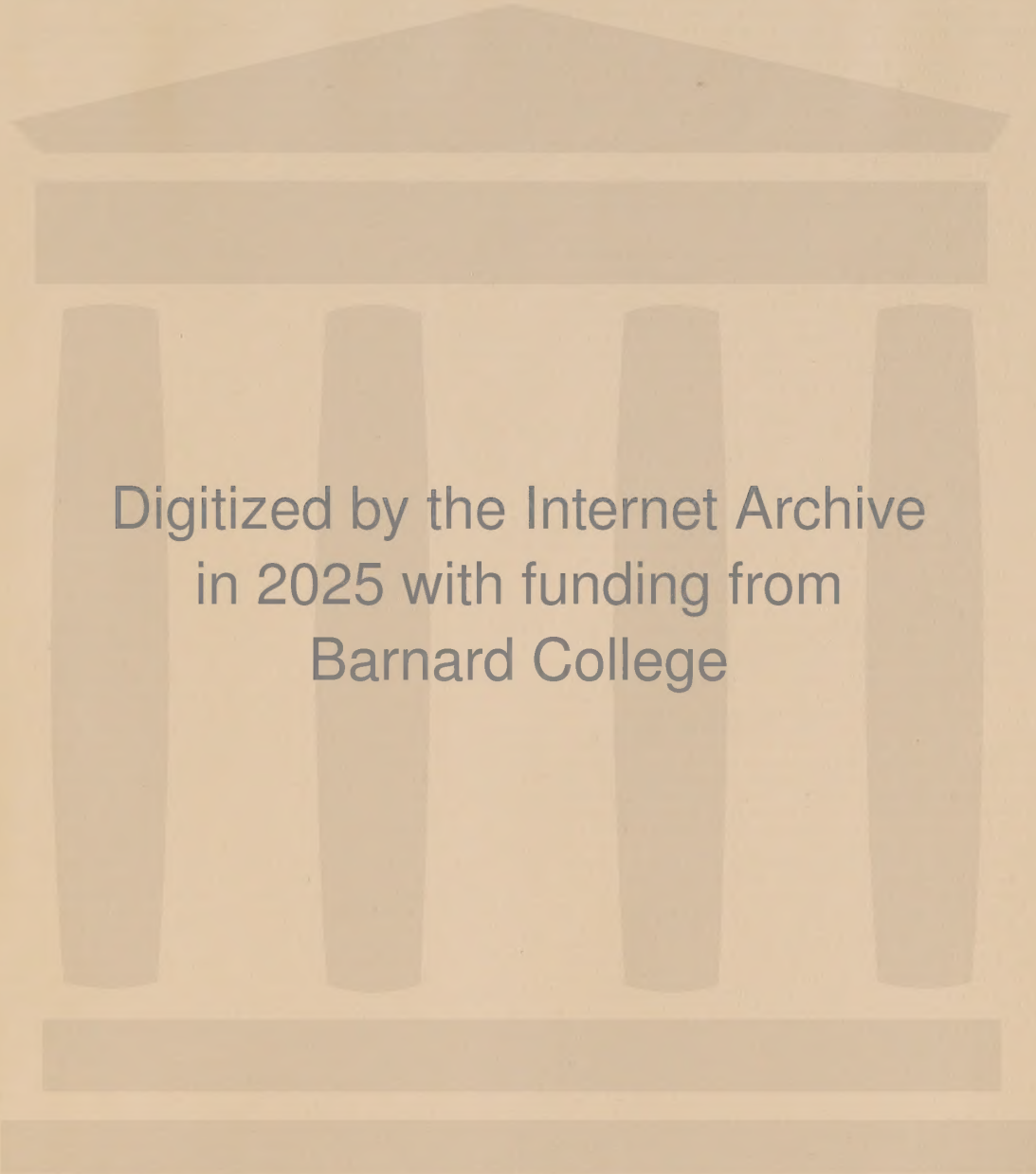
1912-1913

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BARNARD COLLEGE

ANNOUNCEMENT

1912-1913

April, 1912

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1912

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9

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[Any donor of not less than \$5000 will be enrolled among the founders
of Barnard College.]

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JAMES TALCOTT	LAZARUS STRAUS
In the name of	*JOSEPH PULITZER
JOSIAH M. FISKE	JEFFERSON SELIGMAN
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	Estate of Mrs. WILLIAM MOIR
*Deceased.	

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- WILLIAM T. BREWSTER, A.M., *Provost and Professor of English*
- ¹ EDWIN R. A. SELIGMAN, Ph.D., LL.D., *McVickar Professor of Political Economy*
- EDWARD DELAVAN PERRY, Ph.D., LL.D., *Jay Professor of Greek*
- FRANKLIN HENRY GIDDINGS, Ph.D., LL.D., *Professor of Sociology and the History of Civilization*
- HAROLD JACOBY, Ph.D., *Rutherford Professor of Astronomy*
- JAMES RIGNALL WHEELER, Ph.D., LL.D., *Professor of Greek Archæology and Art*
- FRANK N. COLE, Ph.D., *Professor of Mathematics*
- JAMES HARVEY ROBINSON, Ph.D., *Professor of History*
- CALVIN THOMAS, LL.D., *Gebhard Professor of the Germanic Languages and Literatures*
- WILLIAM P. TRENT, M.A., LL.D., D.C.L., *Professor of English Literature*
- HERBERT GARDINER LORD, A.M., *Professor of Philosophy*
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- HENRY E. CRAMPTON, Ph.D., *Professor of Zoölogy*
- CHARLES KNAPP, Ph.D., *Professor of Classical Philology*
- HENRY L. MOORE, Ph.D., *Professor of Political Economy*
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- GRACE A. HUBBARD, A.M., *Associate Professor of English*
- MARIE REIMER, Ph.D., *Associate Professor of Chemistry*

¹ Absent on leave 1912-1913.

² Absent on leave second half-year.

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IDA H. OGILVIE, Ph.D., *Assistant Professor of Geology*

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HAROLD CHAPMAN BROWN, Ph.D., *Instructor in Philosophy*

PAULINE HAMILTON DEDERER, A.M., *Instructor in Zoölogy*

ALEXANDER OTTO BECHERT, A.M., *Instructor in the Germanic Languages and Literatures*

MARION E. LATHAM, A.M., *Instructor in Botany*

ALLEN WILSON PORTERFIELD, Ph.D., *Instructor in the Germanic Languages and Literatures*

EDGAR H. STURTEVANT, Ph.D., *Instructor in Classical Philology*

MAUDE ALINE HUTTMANN, A.M., *Instructor in History*

GRACE LANGFORD, S.B., *Instructor in Physics*

HARRY L. HOLLINGWORTH, Ph.D., *Instructor in Psychology*

LOUISE HOYT GREGORY, Ph.D., *Instructor in Zoölogy*

JULIANA S. HASKELL, Ph.D., *Instructor in the Germanic Languages and Literatures*

HAROLD B. CURTIS, Ph.D., *Instructor in Mathematics*

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 EMILIE J. HUTCHINSON, A.M., *Assistant in History*
 GEORGIANA SANDFORD, A.B., *Assistant in Physics*
 ESTHER EVERETT LAPE, A.B., *Assistant in English*
 RUTH WEIR RAEDER, A.M., *Assistant in Geology*
 _____, *Assistant in Chemistry*
 _____, *Assistant in Chemistry*

Barnard Representatives on the University Council

The DEAN (*ex-officio*), the PROVOST (*ex-officio*), and Professor CRAMPTON (serving until June, 1912, in place of Professor ROBINSON, *absent on leave*).

Standing Committees of the Faculty

COMMITTEE ON INSTRUCTION: The PROVOST, *chairman*, Professors KNAPP, MONTAGUE, REIMER, CRAMPTON, MUSSEY, and RAYMOND WEEKS, and the DEAN (*ex-officio*)

BARNARD MEMBERS OF THE UNIVERSITY COMMITTEE ON UNDERGRADUATE ADMISSIONS: Professors JONES, *chairman*, COLE, BREWSTER, and VAN HOOK

COMMITTEE ON SCHOLARSHIPS: The DEAN, *chairman*, Professors HUBBARD and HIRST, and the PROVOST (*ex-officio*)

COMMITTEE ON HONORS: Professors MALTBY, *chairman*, and HAZEN, Miss HUTTMANN, and the DEAN and the PROVOST (*ex-officio*)

COMMITTEE ON STUDENT ORGANIZATIONS: The DEAN, *chairman*, Miss WEEKS, Professors BRAUN and BALDWIN, Dr. HASKELL, and the PROVOST (*ex-officio*)

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 FREDERICK A. GOETZE, M.Sc., *Consulting Engineer*
 BERTHA L. ROCKWELL, *Librarian of Barnard College*

THE RELATION OF BARNARD COLLEGE TO COLUMBIA UNIVERSITY

According to the agreement made January 19, 1900, between the Trustees of Columbia College in the City of New York and Barnard College, for the purpose of incorporating Barnard College, a college for women, in the educational system of the University, it is provided:

That the President of the University shall be, *ex-officio*, President of Barnard College and a Trustee of Barnard College. He shall preside at the meetings of the Faculty of Barnard College and shall have general supervision and direction of the educational administration of such College as in the other schools of the University.

That the internal administration of Barnard College shall be conducted by a Dean and a Provost who shall be appointed by the President of the University, by and with the advice and consent of the Trustees of Barnard College. In the absence of the Dean or the Provost, an Acting Dean or an Acting Provost may be appointed by the President.

That Barnard College shall be represented in the University Council of Columbia University by its Dean and its Provost, who shall have the right to vote in the University Council upon all questions. The Faculty of Barnard College shall consist of the President, the Dean, the Provost, and all the professors on the staff of the University who give instruction in Barnard College.

That Barnard College shall provide for and maintain such officers of instruction as may, from time to time, be agreed on. Such officers shall be nominated by the Dean of Barnard College, on consultation with the Provost, and with the approval of the Trustees of Barnard College and of the President of the University, and shall be appointed and reappointed by the University according to its custom. Their standing shall be the same in all respects as that of other like officers in the University. For all services rendered in the University by officers so appointed, an equivalent amount of service shall be rendered in Barnard College by other officers of the University of like grade, as may be determined from time to time, with the consent of the officers concerned, by the Dean of the College, on consultation with the Provost, and the President of the University.

That members of the Faculty of Barnard College may be either men or women.

That on and after July 1, 1904, all of the undergraduate instruction for women shall be given separately in Barnard College. Barnard College will assume as rapidly as possible all of the instruction for women in the

senior year, without regard to the time limit contained in this section, and undertakes to maintain every professorship established at its instance, so long as the services of the incumbent thereof or an equivalent therefor shall be rendered in Barnard College; and when Barnard College has adequately provided for its undergraduate work, it will, as its means allow, establish additional professorships in the University, upon foundations, providing for courses which shall be open to men and women, to the end that opportunities for higher education may be enlarged for both men and women.

That the University will accept women who have taken their first degree on the same terms as men, as students of the University, and as candidates for the degrees of Master of Arts and Doctor of Philosophy under the Faculties of Philosophy, Political Science, and Pure Science, in such courses as have been or may be designated by these Faculties, with the consent of those delivering the courses, and will make suitable provision for the oversight of such women.

That the University will confer the degree of Bachelor of Arts or Bachelor of Science upon any student of Barnard College who shall have satisfactorily fulfilled in Barnard College the requirements of the University Statutes for that degree. The courses in Barnard College leading to the degree of Bachelor of Arts or Bachelor of Science shall be determined and administered by its own Faculty, and all examinations for admission to Barnard College and in course shall be conducted under the authority of the Faculty of Barnard College. The diploma shall be signed by the President of the University and by the Dean of Barnard College. The degrees conferred upon the graduates of Barnard College shall be maintained at all times as of equal value with the corresponding degrees conferred upon the graduates of Columbia College. The equivalency of the two degrees shall be maintained in such manner as the University Council may prescribe.

That, so long as this agreement is in force, Barnard College shall grant no degrees. It shall retain the right to grant certificates to students not candidates for a degree, and it shall exercise all other corporate rights and powers which are not delegated to the University by this agreement. But this agreement shall not be deemed a surrender by Barnard College of any powers conferred upon it by charter.

That Barnard College shall retain its separate corporate organization, and that the Trustees of Barnard College shall continue to provide for the financial support thereof.

That the library of the University shall be open to all women students of the University and of Barnard College upon the same terms as to men.

The opportunities open in other schools of the University to students of Barnard College who wish to avail themselves of the advantage of professional training are explained in detail on pages 57-60.

Barnard College

GENERAL STATEMENT

Barnard College offers two distinct liberal courses of undergraduate instruction for women, each of four years' duration, but differing widely in aim and leading to different degrees.

Courses of Study

The literary course requires the study of Latin for entrance and also in college, embraces such general subjects as are deemed essential to a liberal education, requires a major subject equivalent to a three-hour course throughout three years, and leads to the degree of Bachelor of Arts.

The science course allows the substitution of scientific and advanced subjects in place of the entrance Latin, embraces such general courses as are considered essential to any liberal education, requires a major and two minor subjects in pure science amounting to seventy points of college work, and leads to the degree of Bachelor of Science.

A general two-years' course, not leading to a Barnard degree, is arranged to give the cultural basis in literature, languages, history, and natural science for work in certain professional schools of the University. (See p. 57.)

Academic

Under the statutes all students are admitted subject to the disciplinary power of the University.

Discipline

ADMISSION

Admission to Barnard College is obtained only by examination, except that in suitable cases the certified credentials of degree-granting institutions may be accepted for the subjects or parts of subjects which they cover.

Except for reasons of weight, candidates for admission to the freshman class must be at least fifteen years of age at the time of matriculation; candidates for admission to advanced standing must be correspondingly older. Every candidate must, before admission, present a certificate of good moral character from her last teacher, or from some properly qualified citizen. Students from other colleges or universities must present certificates of honorable dismissal.

All requests for information regarding admission should be addressed to the Secretary of Barnard College.

ADMISSION TO THE FRESHMAN CLASS

The requirement for admission to the freshman class is proficiency in fourteen and one-half (14½) units of secondary school subjects, of which some are prescribed and the remainder elective, as specified below. The unit implies the study of a subject for a time equivalent to five (5) periods a week for one (1) year.

In September, 1915, and thereafter all candidates for admission to the A.B. and B.S. courses at Barnard College, except those who offer Elementary Greek, will be required to offer at least three (3) units in modern foreign languages. To meet this requirement a student may offer Elementary and Intermediate French, or Elementary and Intermediate German, or the elementary examinations in any two of the modern languages in Group II below. For the change in the modern language requirement in college work see page 56.

Candidates for the A.B. degree must offer:	COUNTING IN UNITS
Elementary English (page 31).....	3
Elementary Mathematics (page 42).....	2½
Elementary Latin (page 40).....	4
Elective subjects (from Groups I, II, III) <i>See italicized paragraph above</i>	5

Candidates for the B.S. degree must offer:	
Elementary English (page 31).....	3
Elementary Mathematics (page 42).....	2½
Science (from Group III).....	2
Intermediate or advanced subjects (from Group I)	2
Elective subjects (from Groups I, II, III) <i>See italicized paragraph above</i>	5

Candidates for the general two-years' course must offer:

Elementary English (page 31).....	3
Elementary Mathematics (page 42)	2½
Ancient or Modern Foreign Languages.....	4
History, Foreign Languages, Mathematics, or Science.....	5

Group I

Candidates may offer any of the following subjects without other restriction than that to offer an intermediate or advanced subject will involve offering, either at the same time or earlier, the corresponding elementary subject:

ADMISSION

	COUNTING IN UNITS
Elementary Greek (page 37).....	3
Elementary History (see note, page 38).....	2 or 1
Drawing (page 30).....	1
Music (page 43).....	1
Intermediate French (page 35).....	1
Intermediate German (page 37).....	1
¹ Advanced English (page 33).....	1
¹ Advanced Greek (page 38).....	1
¹ Advanced History (page 39).....	1
¹ Advanced Latin (page 42).....	1
Advanced Mathematics (page 43).....	$\frac{1}{2}$, or 1, or $1\frac{1}{2}$
And in the case of candidates for the B.S. degree or for the general two-years' course:	
Elementary Latin (see note, page 40).....	2, or 3, or 4

Group II

Candidates for the A.B. or the B.S. degree may offer not more than 4 units in all and candidates for the general two-years' course may offer not more than 6 units in all from the four subjects following:

	COUNTING IN UNITS
Elementary French (page 34).....	2
Elementary German (page 35).....	2
¹ Italian (page 39).....	2
Spanish (page 46).....	2

Group III

Candidates for the A.B. degree may offer not more than 2 units and candidates for the B.S. degree must offer not less than 2 units in all from the five subjects following:

	COUNTING IN UNITS
Botany (page 28).....	1
Chemistry (page 29).....	1
Physics (page 45).....	1
Physiography (page 46).....	1
Zoölogy (page 47).....	1

¹ Candidates will be examined in this subject only in January and in September.

ENTRANCE EXAMINATIONS¹

Examinations for admission to Barnard College are held each year in January, June, and September. In 1912 they will be held June 17-22, and September 16-23, and in 1913, January 13-20. Time

In June, 1912, the entrance examinations will be conducted by the College Entrance Examination Board, of which Columbia University is a member, at Barnard College and at a large number of widely distributed points. A list of these points will be published by the Board (Post-Office Sub-Station 84, New York, N. Y.) about March 1. Requests for examinations at particular points should reach the Secretary of the Board not later than February 1. Place

In September, 1912, and January, 1913, the entrance examinations of Barnard College, conducted by the Columbia University Committee on Undergraduate Admissions, will be held only at the College. *The September examinations are intended for candidates who plan to enter college immediately. Preliminary examinations should not be taken at that time.*

Every candidate for examination is required to file an application in advance. For the examinations in June, 1912, the application must be filed with the Secretary of the College Entrance Examination Board, Post-Office Sub-Station 84, New York, N. Y. Applications for examination in the United States east of the Mississippi River (also at Minneapolis, St. Louis, and other points on the Mississippi River) must be filed on or before June 3. Applications for examination elsewhere in the United States or in Canada must be filed on or before May 27, and applications for examination at points outside of the United States and Canada must be filed on or before May 13. Requests for blank forms of application should be addressed to the Secretary of the Board. Application
for
Examination

A candidate for a competitive scholarship to be awarded on the basis of the June examinations must, in her application to the Secretary of the College Entrance Examination Board, mention the scholarship for which she is competing.

For the examinations in September, 1912, and January, 1913, applications must be filed with the Registrar of Barnard College on or before September 9, and January 6, respectively. Requests for blank forms of application should be addressed to the Registrar of Barnard College.

¹ Candidates who find that examinations are fixed for days set apart for religious purposes by the church to which they belong, and who are prevented by conscientious scruples from attending such examinations, are requested to make application to the Committee on Admissions through the Registrar of Barnard College for equitable relief. It should be noted, however, that in case alternative opportunities for taking a given examination are statedly offered, as for instance the January, June, and September entrance examinations, such students are expected to present themselves on the day which is not set apart as a holy day.

EXAMINATIONS

Every application for examination in June must be accompanied by a fee of \$5 in the form of a postal order, express order, or draft on New York, to the order of the *College Entrance Examination Board*, for all candidates examined at points in the United States and Canada, and \$15 for all candidates examined at points outside of the United States and Canada.

Every application for examination in September or in January must be accompanied either by a fee of \$5 in the form of a postal order, express order, or draft on New York, to the order of *Barnard College*, by a receipt from the Bursar of Barnard College for an examination fee previously paid, or by the receipt issued by the Secretary of the College Entrance Examination Board for the June examinations immediately preceding. *The latter will be accepted in either September or January but not in both; and a single fee paid to the University will cover only two consecutive series of examinations, namely, January and September or September and January.*

If a late application is accepted either by the College Entrance Examination Board, or by the College, a second fee of \$5 must be paid.

The receipt for the examination fee must be carefully preserved by the candidate and shown (not surrendered) to the supervisor in charge of the examinations as evidence of her right to be admitted to the same. No candidate will be admitted to the September or January examinations upon the receipt of the College Entrance Examination Board, unless that receipt bears the certification of the Registrar of Barnard College that the candidate's application for the examinations has been filed.

A candidate may present herself at any of the scheduled series of examinations, and the results may be credited towards the fulfilment of the requirements for admission subject to the following restrictions:

- Credit for
Examina-
tions

(1) The results of an examination may stand to her credit for twenty-nine months, but no longer.

(2) She may not present herself at more than four series of examinations except by special consent of the Committee on Undergraduate Admissions.

(3) In making application for examination she must submit a statement from the principal of her school, or from her last instructor, indicating the extent and character of her preparation in each subject in which she applies for examination. Credit may be withheld when this requirement is not met.

Schedule of
Examina-
tions

Candidates taking the examinations must report to the supervisor, in the examination room, fifteen minutes in advance of the first examination which they are to attend.

June 17-22, 1912

Monday, June 17

Mathematics a (elementary algebra, complete)..... 9.30-12.30

EXAMINATIONS

21

Mathematics <i>a</i> , i (algebra to quadratics).....	9.30-11.30
Mathematics <i>a</i> , ii (quadratics and beyond).....	9.30-11.30
History <i>b</i> (mediæval and modern).....	1.30- 3.30
History <i>d</i> (American).....	1.30- 3.30
Physics.....	3.45- 5.45
Botany.....	3.45- 5.45
Zoölogy.....	3.45- 5.45

Tuesday, June 18

Mathematics <i>c</i> (plane geometry).....	9-11
Mathematics <i>d</i> (solid geometry).....	9-11
Mathematics <i>cd</i> (plane geometry and solid geometry).....	9-12
History <i>a</i> (ancient).....	1.30- 3.30
History <i>c</i> (English).....	1.30- 3.30
German <i>a</i> (elementary).....	3.45- 5.45

Wednesday, June 19

Latin NR3 (second-year Latin).....	9-11
French <i>a</i> (elementary).....	1.30- 3.30
German <i>b</i> (intermediate).....	3.45- 5.45
Spanish.....	3.45- 5.45

Thursday, June 20

Latin NR4 (Cicero's Manilian Law and Archias, and sight translation of prose).....	9-11
Latin NR5 (Vergil's <i>Æneid</i> , I, II, and IV or VI, and sight translation of poetry).....	1.30- 3.30
French <i>b</i> (intermediate).....	3.45- 5.45

Friday, June 21

English <i>a</i> (reading and practice).....	9-11
Latin NR6 (advanced prose composition).....	11.15-12.30
English <i>b</i> (study and practice).....	1.30- 3.30
Chemistry.....	3.45- 5.45
Geography.....	3.45- 5.45
Greek <i>c</i> (Homer's <i>Iliad</i> , Books I-III).....	3.45- 5.45
Music <i>b</i> (harmony).....	3.45- 5.45

Saturday, June 22

Greek <i>b</i> (Xenophon's <i>Anabasis</i>).....	9-11
Drawing.....	9-11
Mathematics <i>b</i> (advanced algebra).....	9-11
Greek <i>a</i> , i (grammar).....	11.15-12

Greek <i>a</i> , ii (elementary prose composition).....	12-12.30
Mathematics <i>f</i> (plane trigonometry).....	1.30- 3.30
Greek <i>g</i> (sight translation of prose).....	1.30- 3.30
Greek <i>f</i> (prose composition).....	3.45- 5.15
Music <i>a</i> (musical appreciation).....	3.45- 5.45

September 16-23, 1912, and January 13-20, 1913

Monday, September 16, and January 13

Mathematics <i>a</i> (elementary algebra, complete).....	9.30-12.30
Mathematics <i>a</i> , i (algebra to quadratics).....	9.30-11.30
Mathematics <i>a</i> , ii (quadratics and beyond).....	9.30-11.30
History <i>b</i> (mediaeval and modern).....	1.30- 3.30
History <i>d</i> (American).....	1.30- 3.30
Physics.....	3.45- 5.45
Botany.....	3.45- 5.45
Zoölogy.....	3.45- 5.45

Tuesday, September 17, and January 14

Mathematics <i>c</i> (plane geometry).....	9-11
Mathematics <i>d</i> (solid geometry).....	9-11
Mathematics <i>cd</i> (plane geometry and solid geometry).....	9-12
History <i>a</i> (ancient).....	1.30- 3.30
History <i>c</i> (English).....	1.30- 3.30
German <i>a</i> (elementary).....	3.45- 5.45

Wednesday, September 18, and January 15

Latin NR3 (second-year Latin).....	9-11
French <i>a</i> (elementary).....	1.30- 3.30
German <i>b</i> (intermediate).....	3.45- 5.45
Spanish.....	3.45- 5.45
Italian.....	3.45- 5.45

Thursday, September 19, and January 16

Latin NR4 (Cicero's Manilian Law and Archias, and sight translation of prose).....	9-11
Latin NR5 (Vergil's <i>Æneid</i> I, II, and IV or VI, and sight translation of poetry).....	1.30- 3.30
French <i>b</i> (intermediate).....	3.45- 5.45

Friday, September 20, and January 17

English <i>a</i> (reading and practice).....	9-11
Latin NR6 (advanced prose composition).....	11.15-12.30
English <i>b</i> (study and practice).....	1.30- 3.30

Chemistry.....	3.45- 5.45
Physiography.....	3.45- 5.45
Greek <i>c</i> (Homer's Iliad, Books I-III).....	3.45- 5.45
Music <i>b</i> (harmony).....	3.45- 5.45

Saturday, September 21, and January 18

Greek <i>b</i> (Xenophon's Anabasis).....	9-11
Mathematics <i>b</i> (advanced algebra).....	9-11
Drawing.....	9-11
Greek <i>a</i> (grammar and elementary prose composition).....	11-12.30
Mathematics <i>f</i> (plane trigonometry).....	1.30- 3.30
Greek <i>g</i> (sight translation of prose).....	1.30- 3.30
Greek <i>f</i> (prose composition).....	3.45- 5.15
Music <i>a</i> (musical appreciation).....	3.45- 5.45

Monday, September 23, and January 20

Advanced English.....	9-12
Advanced Greek.....	9-12
Advanced History.....	1-4
Advanced Latin.....	1-4

Barnard College accepts in lieu of its entrance examinations or those of the College Entrance Examination Board¹, no credentials of any sort except (1) the examination reports of the Education Department of the State of New York showing that the candidate has completed certain courses in a high school in the State of New York and that she has passed the examinations of the Education Department in these subjects (for table of equivalents, see p. 24), (2) the official reports of entrance examinations taken in good faith for admission to other colleges, and (3) certain courses of the Summer Session of Columbia University (see p. 25). *These credentials are accepted only in so far as they cover specifically, and by name, subjects or lettered (or numbered) parts of a subject which are accepted for admission to Barnard College, and state in percentages the grades received in the examinations in such subjects.* Candidates must take the regular entrance examinations in the subjects in which their credentials are not deemed adequate. Except for reasons of weight credentials are not accepted as covering subjects passed more than twenty-nine months previous to the date at which the candidate intends to begin residence. No certificates from preparatory schools or from preparatory departments of colleges will be accepted in lieu of entrance examinations.

**Substitutes
for the Board
or Barnard
Examina-
tions**

In order to be credited towards entrance, the candidate's credentials, together with (1) the statement of the extent and character of her pre-

¹ The numerical ratings of the Board are accepted by the College, but the passing mark is fixed by the Committee on Undergraduate Admissions.

paration in each subject offered (see Credit for Examinations, section 3, p. 20), and (2) any science note-books or drawings that she has to present, must be in the hands of the Committee on Admissions at least ten days prior to the opening of the term in September or in February.

Candidates for admission on the credentials of the New York State Education Department should notify the Secretary of Barnard College of their intention at least six weeks prior to the opening of the term in September or in February.

The subjects for which the State credentials are accepted and their value in Barnard entrance units are as follows:

	State Education Department counts	Barnard units
¹ Botany (Advanced Botany).....	5	1
¹ Chemistry.....	5	1
¹ Drawing, Design, and Representation.....	5	1
English, four years.....	13	3
French, Elementary.....	10	2
" Intermediate.....	5	1
German, Elementary.....	10	2
" Intermediate.....	5	1
Greek:		
Grammar and Composition.....	10	2
Second Year Greek.....		
Translation of Prose at Sight.....	5	1
Third Year Greek.....		
Advanced Prose Composition.....		
¹ History:		
¹ Ancient.....	5	1
¹ European.....	5	1
¹ English.....	5	1
¹ American.....	5	1
Italian.....	10	2
Latin (<i>for candidates for A.B. course</i>):		
Third Year Latin (NR4).....	5	1½
Fourth Year Latin (NR5).....	5	1½
Advanced Prose Composition (NR6).....	1	1
Latin (<i>for candidates for B.S. or two-year course</i>):		
² Second Year Latin (NR3).....	10	2

¹ Credit cannot be secured in these subjects unless the following requirements are met:

(a) In all natural sciences, laboratory note-books, duly certified by the teachers, must be presented in accordance with the regulations stated on page 49.

(b) In Drawing at least twenty (20) freehand drawings, duly certified by the teacher, must be presented in accordance with the regulations stated on page 49.

(c) In History only the five-count electives will be accepted.

² See note, page 40.

	State Education Department counts	Barnard units
Mathematics:		
Algebra.....	5	1
Intermediate Algebra.....	2	1/2
Plane Geometry.....	5	1
Solid Geometry.....	2	1/2
Plane Trigonometry.....	2	1/2
Advanced Algebra.....	3	1/2
¹ Physics.....	5	1
¹ Physiography.....	5	1
Spanish.....	10	2
¹ Zoölogy (Advanced Zoölogy).....	5	1

A grade of C in the following courses of the Summer Session of Columbia University will fulfil entrance requirements or remove entrance conditions in the subjects specified in each case:

Botany s1 with s1a, if taken in two successive years—for botany	Summer Session Work in Lieu of Entrance Examinations
Chemistry sA—for chemistry	
French sA1, sA2, sA3—for elementary French	
French sB1—for intermediate French	
German sA1, sA2, sA3—for elementary German	
German sB1 with sB2—for intermediate German	
Italian s1 with s2—for elementary Italian	
Latin sZ—for advanced Latin prose composition	
Mathematics sA1, sA2, sA5—for the corresponding parts of advanced mathematics	
Physics sA—for physics	
Spanish s1 with s2—for elementary Spanish	

A candidate for admission, who has not secured the prescribed 14½ units, may be admitted to the freshman class with conditions, if, in the judgment of the Committee on Admissions, she is qualified to undertake the work of the class. General deficiency in any prescribed subject will disqualify for admission. Except for reasons of weight a student who has failed to complete a course in a good high school or preparatory school will not be admitted with conditions.

Entrance
Conditions
and
Probation

All entrance conditions must be removed within one calendar year from the date of entrance.

1 Credit cannot be secured in these subjects unless the following requirements are met:

- In all natural sciences, laboratory note-books, duly certified by the teachers, must be presented in accordance with the regulations stated on page 49.
- In Drawing at least twenty (20) freehand drawings, duly certified by the teacher, must be presented in accordance with the regulations stated on page 49.
- In History only the five-count electives will be accepted.

A student admitted conditionally or by credentials from another college or from the State Education Department will be held under probation during the first half-year of residence. By Tuesday of the week preceding the Thanksgiving holidays, each department in which students on probation attend will make to the Committee on Instruction a special report of progress in the case of every such student. The Dean, on the recommendation of the Committee on Instruction, will as soon as practicable after the mid-year examinations decide as to each student on probation whether she shall be admitted to full standing, have her period of probation extended, or be dropped from the roll.

The mark C, B, or A, obtained at the end of the first half-year of residence, in a course of a higher grade than the entrance requirement, will be regarded as removing an entrance condition in that subject, unless the condition was incurred in a part of the subject not directly involved in the work of the college course. To remove a condition by college work a mark of at least thirty-five per cent. must have been obtained in an entrance examination. Any condition not so removed must be satisfied by a regular entrance examination for which an application must be filed and a fee paid precisely as required of a candidate for admission. (Regarding the removal of entrance conditions by work in the Summer Session of Columbia University, see page 25.)

While work done in University extension courses is not primarily accepted in lieu of entrance examinations, *entrance conditions* may be removed by a grade of at least C subsequently obtained in the appropriate extension courses. Students in college who desire to avail themselves of this privilege must submit their choice of extension courses for the approval of the Committee on Instruction as a part of their regular college work. (For the general regulations regarding the election of extension courses see p. 54.)

ADMISSION TO ADVANCED STANDING

A candidate for admission to advanced standing, either upon the basis of credentials from other colleges or on examination, must fill out the appropriate application blank to be obtained from the Secretary, and file it with the Barnard College Committee on Admissions at least one week before the first day of the September or January entrance examinations. Each candidate must also present at that time, (1) an official statement of her academic record including entrance credits, (2) letters from at least two of her instructors in regard to her scholarship and character, (3) an honorable dismissal from the college which she is leaving, and (4) a marked catalogue of that college plainly showing every requirement for admission and every course of instruction with which she is credited.

Every candidate for admission to advanced standing must show that she has attained proficiency in the equivalent of (1) the requirements for

admission to the freshman class; (2) all the prescribed studies already pursued by the class to which she seeks admission; (3) as many elective studies as she would have pursued if she had entered the class at the beginning of the freshman year.

She may be admitted notwithstanding deficiencies in some of these studies, but will not be recommended for a degree until she shall have brought all her studies up to the point required for that degree.

The credits granted in any subject to a student admitted with advanced standing may be withdrawn or diminished in amount, if, in pursuing such subject after admission to Barnard College, the student prove that the granting of the credits was wholly or in part unwarranted by her previous work.

No applicant may enter the senior class as a candidate for a degree after October 15 in any year, and no student will receive a degree who has resided less than two full half-years at Barnard College. (See also paragraph 11, page 54.)

Candidates for admission to the freshman class offering by examination more than the required $14\frac{1}{2}$ units may be given credit toward a degree for this extra work, on a basis to be determined by the Committee on Admissions, provided that not more than 18 of the 124 points required for a degree may be gained in this way.

ADMISSION AS SPECIAL STUDENTS

A candidate for admission as a special student must fill out the appropriate application blank to be obtained from the Secretary and file it with the Committee on Admissions at least one week before the first day of the September or January entrance examinations.

Special students in Barnard College are of two classes: matriculated and non-matriculated.

Matriculated special students are women who wish, without taking a degree, to make a serious study of some subject or group of subjects. They must pass the regular examinations for admission to the freshman class and have full credit for fourteen and one-half ($14\frac{1}{2}$) units of the entrance requirements. (See p. 17.) They may, therefore, in event of a change of plan, be credited with such of their courses as may coincide with the courses leading to a degree.

**Matriculated
Special
Students**

Non-matriculated special students must be women of mature age who wish to pursue chiefly advanced courses of special study. They may be admitted at the discretion of the Committee on Admissions without passing formal entrance examinations; but they must furnish proof that they have at some time pursued the studies included in the matriculation examinations and must satisfy the requirements of the department that they desire to enter. *Candidates desiring to pursue merely elementary*

**Non-
Matriculated
Special
Students**

courses, as in languages, etc., will not be admitted as non-matriculated special students.

No courses taken by non-matriculated special students can at any time be counted by them toward a degree.

Except for reasons of weight, satisfactory to the Committee on Admissions, no one will be received as a special student who is less than eighteen years of age, or who has, within ten months of the time of her application, either been rejected or become deficient as a regular student.

Once admitted to the college, special students will be allowed to select their own courses of study subject to the general approval of the Provost, on the recommendation of the Committee on Instruction, and to the particular approval, for each course selected, of the head of the department in which the course is given.

Each student is required to pursue in each half-year courses amounting to at least eight (8) points, unless excused by the Provost, on the recommendation of the Committee on Instruction, for reasons of special weight.

In the courses which they severally pursue all special students will be held to the observance of the same regulations as to attendance, examination, proficiency, and deficiency as regular students.

All special students will receive a formal statement as to the satisfactory completion of the work that they have taken.

DEFINITIONS OF REQUIREMENTS¹

Specimens of the question papers set by Columbia University may be obtained from the Registrar upon application. The question papers of the College Entrance Examination Board are published annually in book form by Ginn & Company, Boston, Mass.

For a more detailed statement of the requirements in botany and physiography or lists of suitable laboratory experiments in chemistry and physics the reader is referred to the pamphlet of the College Entrance Examination Board containing definitions of the requirements in each subject.

BOTANY (counting one unit)

The candidate should have received training by means of the laboratory method in:

The structure and the more obvious features of the life history of at least ten types among the higher seed plants chosen from the more representative families (*e.g.*, Gramineæ, Liliaceæ, Salicaceæ, Ranunculaceæ, Rosaceæ, Leguminosæ, Cruciferae, Solanaceæ, Labiatae, Compositae). In addition to these the following types are recommended among the remaining lower groups of plants: pine, *Selaginella*, a fern, a moss (*Polypodium* or *Funaria*), a leafy hepatic, *Marchantia*, a mildew (*Microspora*),

¹ The relative value of subjects is expressed in units according to the time required for adequate preparation in them; a unit in the sense here used represents a course of five (5) periods weekly throughout an academic year of the preparatory school.

an agaric, *Vaucheria*, *Spirogyra*, and a protophyte (preferably *Sphaerella*).

Morphology of shoot, root, and seed. This work covers the growth, character, relation, and function of the more important tissues of the stem, leaf, bud, and root; together with a study of the more common variation of these organs. The work on the seed includes the structure and homologies of the principal types, nature of reserve food, the renewal of growth of the seed, and the development of the seedling.

Physiology. This work should cover the essential facts concerning irritability, photosynthesis, respiration, digestion, growth, and reproduction.

Ecology. The natural history of plants should receive considerable attention, and the behavior of plants toward environmental factors (especially light and moisture), dissemination, cross and close pollination, and the more important structural and physiological characteristics of plant formations (hydrophytes, halophytes, mesophytes, and xerophytes) should be included.

As evidence of proper laboratory training and of satisfactory work, a note-book must be submitted. (See Submission of Note-books, page 49.)

CHEMISTRY (counting one unit)

The candidate's preparation in chemistry should include:

a. The study of a standard text-book, to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.

b. Instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations.

c. Individual laboratory work, comprising at least forty exercises.

An indexed note-book of the experiments must be submitted. (See Submission of Note-books, page 49.)

The following outline includes only the indispensable things which must be studied in the class-room and laboratory. The material is, for the most part, common to all elementary text-books and laboratory manuals. The order of presentation will naturally be determined by each teacher for himself.

OUTLINE.—The chief physical and chemical characteristics, the preparation and the recognition of the following elements together with their principal compounds: *oxygen, hydrogen, carbon, nitrogen, chlorine, bromine, iodine, fluorine, sulphur*, phosphorus, silicon, potassium, *sodium*, calcium, magnesium, *zinc*, copper, mercury, silver, aluminium, *lead*, tin, *iron*, manganese, chromium.

More detailed study should be confined to the italicized *elements* (as such) and to a restricted list of compounds such as: water, hydrochloric acid, carbon-monoxide, carbon-dioxide, oxides of nitrogen, nitric acid,

ammonia, sulphur-dioxide, sulphuric acid, hydrogen sulphide, sodium-hydroxide, ammonium-hydroxide.

Attention should be given to the atmosphere (constitution and relation to animal and vegetable life), flames, acids, bases, salts, oxidation and reduction, crystallization, combining proportions by weight and volume, calculations founded on these and Boyle's and Charles's laws, symbols and nomenclature, atomic and ionization theory, atomic weights, valency (in a very elementary way), nascent state, natural grouping of the elements, solution (solvents and solubility of gases and solids and liquids, saturation), strength of acids and bases, conservation and dissipation of energy, chemical energy, electrolysis. Chemical terms should be clearly understood, and the pupil should be able to illustrate and apply the ideas they embody. The theoretical topics are not intended to form separate subjects of study, but to be taught only so far as is necessary for the correlation and explanation of the experimental facts.

DRAWING (counting one unit)

The candidate's preparation in drawing should include simple geometrical, plane, and solid figures, simple pieces of machinery, the drawing of simple pieces of architectural ornament (a Greek anthemion, a design of iron scrollwork, etc.), the copying of machinery details, or the copying of still life and simple plant forms, with a fair knowledge of perspective and light and shade as applied in freehand sketching. The candidate should be able to reproduce from a flat copy with enlargement or reduction of size.

Every candidate must present at the time of and as part of the examination in drawing a set of freehand drawings executed during one year's course in a preparatory school and within a period of two years before the time of application for admission.

These drawings should be at least twenty in number and should display the proficiency of the student in the following points:

1. Ability to sketch freehand from dictation with reasonable accuracy and with fairly correct, steady, and clean lines any simple geometrical figure or combinations of figures, straight lines, squares and circles, polygons, spirals, or the like.
2. Ability to sketch from the object with reasonable correctness of proportion, structure, and form, geometrical models, simple vases, simple details of machinery, or common objects such as ordinary household furniture and utensils.
3. Ability to sketch from the copy, enlarging or reducing its dimensions, any simple object such as a globe valve, stop-cock, or any ordinary historical ornament such as an acanthus leaf, egg and dart ornament, anthemion, tile pattern, iron scrollwork, or the like.

Correctness of proportion and accuracy in the angles and curves and

structural relations of the parts of every figure or object drawn are of the highest importance, and great care should be taken in laying out the drawings, in the use of construction lines, and in the drawing of general masses and contour before the details are begun.

A certain proportion of shade drawings from casts may be included, but they are not required and should not form the majority of the drawings submitted.

All drawings should be of uniform size, and fastened together, not rolled.

In case the candidate has not attended a systematic course of instruction as detailed above she may submit a corresponding set of freehand drawings. (See Submission of Note-books, page 49).

ENGLISH

Elementary (counting three units)

No applicant will be accepted in English whose work is notably defective in point of spelling, grammar, idiom, punctuation, or division into paragraphs.

a. Reading and Practice.—The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before her in the examination paper. The treatment of these topics is designed to show the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. *In every case knowledge of the book will be regarded as less important than the ability to write good English.* In place of a part or the whole of this test, the candidate may present an exercise book, properly certified by her instructor, containing compositions or other written work done in connection with the reading of the books, and prepared in accordance with a list of directions, to be obtained by addressing the Secretary of the University. (See Submission of Note-books, page 49.) In preparation for this part of the requirement, it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

Candidates intending to take this part of the examination should read the books prescribed for the year in which they propose to submit themselves for examination in this subject.

In 1912 nine books, selected from the following list as prescribed below, are to be offered for examination.

Group I (two to be selected). Shakspeare's *As You Like It*, *Henry V*, *Julius Cæsar*, *The Merchant of Venice*, *Twelfth Night*.

Group II (one to be selected). Bacon's *Essays*; Bunyan's *The Pilgrim's Progress*, Part I; *The Sir Roger de Coverley Papers*, in the *Spectator*; Franklin's *Autobiography*.

Group III (one to be selected). Chaucer's *Prologue*; Spenser's *Faerie*

Queene (selections); Pope's *The Rape of the Lock*; Goldsmith's *The Deserted Village*; Palgrave's *Golden Treasury* (First Series), Books II and III, with especial attention to Dryden, Collins, Gray, Cowper, and Burns.

Group IV (two to be selected). Goldsmith's *The Vicar of Wakefield*; Scott's *Ivanhoe*; Scott's *Quentin Durward*; Hawthorne's *The House of the Seven Gables*; Thackeray's *Henry Esmond*; Mrs. Gaskell's *Cranford*; Dickens's *A Tale of Two Cities*; George Eliot's *Silas Marner*; Blackmore's *Lorna Doone*.

Group V (one to be selected). Irving's *Sketch-Book*; Lamb's *Essays of Elia*; De Quincey's *Joan of Arc* and *The English Mail Coach*; Carlyle's *Heroes and Hero Worship*; Emerson's *Essays* (selected); Ruskin's *Sesame and Lilies*.

Group VI (two to be selected). Coleridge's *The Ancient Mariner*; Scott's *The Lady of the Lake*; Byron's *Mazeppa* and *The Prisoner of Chillon*; Palgrave's *Golden Treasury* (First Series), Book IV, with especial attention to Wordsworth, Keats, and Shelley; Macaulay's *Lays of Ancient Rome*; Poe's *Poems*; Lowell's *The Vision of Sir Launfal*; Arnold's *Sohrab and Rustum*; Longfellow's *The Courtship of Miles Standish*; Tennyson's *The Princess*; Browning's *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Evelyn Hope*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *The Boy and the Angel*, *One Word More*, *Hervé Riel*, *Pheidippides*.

In 1913, 1914, and 1915, ten units are to be selected, two from each group:

Group I. The *Old Testament*, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; Vergil's *Æneid*. The *Odyssey*, *Iliad*, and *Æneid* should be read in English translations of recognized literary excellence.

For any unit of this group a unit from any other group may be substituted.

Group II. Shakspeare's *The Merchant of Venice*; *Midsummer Night's Dream*; *As You Like It*; *Twelfth Night*; *Henry V*; *Julius Cæsar*.

Group III. Defoe's *Robinson Crusoe*, Part I; Goldsmith's *The Vicar of Wakefield*; either Scott's *Ivanhoe*, or Scott's *Quentin Durward*; Hawthorne's *The House of the Seven Gables*; either Dickens's *David Copperfield*, or Dickens's *A Tale of Two Cities*; Thackeray's *Henry Esmond*; Mrs. Gaskell's *Cranford*; George Eliot's *Silas Marner*; Stevenson's *Treasure Island*.

Group IV. Bunyan's *Pilgrim's Progress*, Part I; *The Sir Roger de Coverley Papers* in the *Spectator*; Franklin's *Autobiography* (condensed); Irving's *Sketch-Book*; Macaulay's *Essays on Lord Clive* and *Warren Hastings*;

Thackeray's *English Humourists*; selections from Lincoln, including at least the two *Inaugurals*, the *Speeches in Independence Hall* and at *Gettysburg*, the *Last Public Address*, and *Letter to Horace Greeley*, along with a brief memoir or estimate; Parkman's *Oregon Trail*; either Thoreau's *Walden*, or Huxley's *Autobiography* and selections from *Lay Sermons*, including the addresses on *Improving Natural Knowledge*, *A Liberal Education*, and *A Piece of Chalk*; Stevenson's *Inland Voyage* and *Travels with a Donkey*.

Group V. Palgrave's *Golden Treasury* (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Gray's *Elegy in a Country Churchyard* and Goldsmith's *The Deserted Village*; Coleridge's *The Ancient Mariner* and Lowell's *The Vision of Sir Launfal*; Scott's *The Lady of the Lake*; Byron's *Childe Harold*, Canto IV, and *The Prisoner of Chillon*; Palgrave's *Golden Treasury* (First Series), Book IV, with especial attention to Wordsworth, Keats, and Shelley; Poe's *The Raven*, Longfellow's *The Courtship of Miles Standish*, and Whittier's *Snow Bound*; Macaulay's *Lays of Ancient Rome* and Arnold's *Sohrab and Rustum*; Tennyson's *Gareth and Lynette*, *Launcelot and Elaine*, and *The Passing of Arthur*; Browning's *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*.

b. Study and Practice.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon subject-matter, form, and structure. In addition, the candidate may be required to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

In connection with the reading and study of the required books parallel or subsidiary reading should be encouraged, and a considerable amount of English poetry should be committed to memory. The essentials of English grammar should not be neglected in preparatory study.

The books prescribed for this part of the examination are as follows:

In 1912: Shakspeare's *Macbeth*; Milton's *Comus*, *L'Allegro*, and *Il Penseroso*, or Tennyson's *Gareth and Lynette*, *Launcelot and Elaine*, and *The Passing of Arthur*; Burke's *Speech on Conciliation with America* or Washington's *Farewell Address* and Webster's *First Bunker Hill Oration*; Macaulay's *Life of Johnson*, or Carlyle's *Essay on Burns*.

In 1913, 1914, and 1915: Shakspeare's *Macbeth*; Milton's *L'Allegro*, *Il Penseroso*, and *Comus*; either Burke's *Speech on Conciliation with America* or both Washington's *Farewell Address* and Webster's *First Bunker Hill Oration*; either Macaulay's *Life of Johnson* or Carlyle's *Essay on Burns*.

Advanced (counting one unit)

Candidates offering Advanced English will be required to have covered

substantially the same ground as that included under English A1-A2—the course prescribed for freshmen. Candidates are examined in the following subjects:

1. English composition, with special attention to correctness of style and orderly arrangement of material. In preparation for this part of the examination, the student should gain a practical acquaintance with the principles of rhetoric as expounded in any good text-book.

2. English literature—the general history from the Anglo-Saxon period to the death of Tennyson, and selected works from the Elizabethan period to the present day. The selected works are: Marlowe's *Edward II*; Shakespeare's *Hamlet*; Milton's *Paradise Lost* (Books I, II, III, and VI); Dryden's *Essay: Of Dramatic Poesy*; Swift's *The Battle of the Books*; Pope's *Iliad* (Books I, VI, XXII, and XXIV); Goldsmith's *She Stoops to Conquer*; Byron's *Childe Harold*; Webster's *Reply to Hayne*; Dickens's *Old Curiosity Shop*.

In examination the candidate will be expected to answer questions on the history of English literature and to write short essays based on topics relating to the works prescribed. In addition she must submit not less than ten essays of at least 500 words each. At least half but not all of these essays should be on topics chosen from the books prescribed. (See Submission of Note-books, page 49.)

FRENCH

a. Elementary (counting two units)

THE AIM OF THE INSTRUCTION.—At the end of the elementary course the pupil should be able to pronounce French accurately, to read at sight easy French prose, to put into French simple English sentences taken from the language of every-day life, or based upon a portion of the French text read, and to answer questions on the rudiments of the grammar, as defined below.

THE WORK TO BE DONE.—During the first year the work should comprise: (1) careful drill in pronunciation; (2) the rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural of nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs, prepositions, and conjunctions; the order of words in the sentence, and the elementary rules of syntax; (3) abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; (4) the reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English), and in reproducing from memory sentences previously read; (5) writing French from dictation.

During the second year the work should comprise, (1) the reading of

from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches; (2) constant practice, as in the previous year, in translating into French easy variations upon the texts read; (3) frequent abstracts, sometimes oral and sometimes written, of portions of the text already read; (4) writing French from dictation; (5) continued drill upon the rudiments of grammar, with constant application in the construction of sentences; (6) mastery of the forms and use of pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

Suitable texts for the second year are: About's *Le roi des montagnes*, Bruno's *Le tour de la France*, Daudet's easier short tales, La Bédolière's *La Mère Michel et son chat*, Erckmann-Chatrian's stories, Foa's *Contes biographiques* and *Le petit Robinson de Paris*, Foncin's *Le pays de France*, Labiche and Martin's *La Poudre aux yeux* and *Le voyage de M. Perrichon*, Legouv   and Labiche's *La cigale chez les fourmis*, Malot's *Sans famille*, Mariet's *La t  che du petit Pierre*, M  rim  e's *Colomba*, extracts from Mich  let, Sarcey's *Le si  ge de Paris*, Verne's stories.

b. Intermediate (counting one unit)

THE AIM OF THE INSTRUCTION.—At the end of the intermediate course the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

THE WORK TO BE DONE.—This should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts are: About's stories, Augier and Sandeau's *Le gendre de M. Poirier*, B  ranger's poems, Corneille's *Le Cid* and *Horace*, Copp  e's poems, Daudet's *La Belle-Nivernaise*, La Br  te's *Mon oncle et mon cur  *, Madame de S  vign  's letters, Hugo's *Hernani* and *La chute*, Labiche's plays, Loti's *P  cheur d'Islande*, Mignet's historical writings, Moli  re's *L'avare* and *Le bourgeois gentilhomme*, Racine's *Athalie*, *Andromaque*, and *Esther*, George Sand's plays and stories, Sandeau's *Mademoiselle de la Seigli  re*, Scribe's plays, Thierry's *R  cits des temps m  rovingiens*, Thiers's *L'exp  dition de Bonaparte en Egypte*, Vigny's *La canne de jonc*, Voltaire's historical writings.

GERMAN

a. Elementary (counting two units)

THE AIM OF THE INSTRUCTION.—At the end of the elementary course in German the pupil should be able to read at sight, and to translate if

called upon, by way of proving her ability to read, a passage of very easy dialogue or narrative prose, help being given upon unusual words and constructions, to put into German short English sentences taken from the language of every-day life or based upon the text given for translation, and to answer questions upon the rudiments of grammar, as defined below.

THE WORK TO BE DONE.—During the first year the work should comprise: (1) careful drill upon pronunciation; (2) the memorizing and frequent repetition of easy colloquial sentences; (3) drill upon the rudiments of grammar—that is upon the inflection of the articles, of such nouns as belong to the language of every-day life, of adjectives, pronouns, weak verbs, and the more usual strong verbs, also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word-order; (4) abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; (5) the reading of from 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

During the second year the work should comprise: (1) the reading of from 150 to 200 pages of literature in the form of easy stories and plays; (2) accompanying practice, as before, in the translation into German of easy variations upon the matter read, and also in the off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages; (3) continued drill upon the rudiments of the grammar, directed to the ends of enabling the pupil, first, to use her knowledge with facility in the formation of sentences, and, second, to state her knowledge correctly in the technical language of grammar.

Stories suitable for the elementary course can be selected from the following list: Andersen's *Märchen* and *Bilderbuch ohne Bilder*; Arnold's *Fritz auf Ferien*; Baumbach's *Die Nonna* and *Der Schwiegersohn*; Gerstäcker's *Germelshausen*; Heyse's *L'Arrabbiata*, *Das Mädchen von Treppi*, and *Anfang und Ende*; Hillern's *Höher als die Kirche*; Jensen's *Die braune Erica*; Leander's *Träumereien* and *Kleine Geschichten*; Seidel's *Märchen*; Stökl's *Unter dem Christbaum*; Storm's *Imensee* and *Geschichten aus der Tonne*; Zschokke's *Der zerbrochene Krug*.

Among the shorter plays the best available are perhaps Benedix's *Der Prozess*, *Der Weiberfeind*, and *Günstige Vorzeichen*; Elz's *Er ist nicht eifersüchtig*; Wichert's *An der Majorsecke*; Wilhelmi's *Einer muss heiraten*. It is recommended, however, that not more than one of these plays be read. The narrative style should predominate. A good selection of reading matter for the second year would be Andersen's *Märchen*, or *Bilderbuch*, or Leander's *Träumereien*, to the extent of, say, forty pages.

After that such a story as *Das kalte Herz*, or *Der zerbrochene Krug*; then *Höher als die Kirche*, or *Immensee*; next a good story by Heyse, Baumbach, or Seidel; lastly *Der Prozess*.

b. Intermediate (counting one unit)

THE AIM OF THE INSTRUCTION.—At the end of the intermediate course the pupil should be able to read at sight German prose of ordinary difficulty, whether recent or classical; to put into German a connected passage of simple English paraphrased from a given text in German; to answer any grammatical questions relating to usual forms and essential principles of the language, including syntax and word-formation; and to translate and explain (so far as explanation may be necessary) a passage of classical literature taken from some text previously studied.

THE WORK TO BE DONE.—The work should comprise, in addition to the elementary course, the reading of about 400 pages of moderately difficult prose and poetry, with constant practice in giving, sometimes orally and sometimes in writing, paraphrases, abstracts, or reproductions from memory of selected portions of the matter read, also grammatical drill upon the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes (with special reference to the infinitive and subjunctive), and likewise upon word-order and word-formation.

The intermediate course is supposed to be the elementary course plus one year's work at the rate of not less than four recitations a week. Suitable reading matter for the third year can be selected from such works as the following: Ebner-Eschenbach's *Die Freiherren von Gemperlein*; Freytag's *Die Journalisten* and *Bilder aus der deutschen Vergangenheit*—for example, *Karl der Grosse*, *Aus den Kreuzzügen*, *Doktor Luther*, *Aus dem Staat Friedrichs des Grossen*; Fouqué's *Undine*; Gerstäcker's *Irrefahrten*; Goethe's *Hermann und Dorothea* and *Iphigenie*; Heine's poems and *Reisebilder*; Hoffmann's *Historische Erzählungen*; Lessing's *Minna von Barnhelm*; Meyer's *Gustav Adolfs Page*; Moser's *Der Bibliothekar*; Riehl's *Novellen*—for example, *Burg Neideck*, *Der Fluch der Schönheit*, *Der stumme Ratsherr*, *Das Spielmannskind*; Rosegger's *Waldheimat*; Schiller's *Der Neffe als Onkel*, *Der Geisterseher*, *Wilhelm Tell*, *Die Jungfrau von Orleans*, *Das Lied von der Glocke*, *Balladen*; Scheffel's *Der Trompeter von Säckingen*; Uhland's poems; Wildenbruch's *Das edle Blut*.

GREEK

Elementary (counting three units)

a. i. Grammar. The common forms, idioms, and constructions, and the general grammatical principles of Attic Greek prose.

ii. Elementary Prose Composition. Translation into Greek of detached sentences to test the candidate's knowledge of grammatical constructions.

The examination in the two subjects immediately preceding will be based on the first two books of Xenophon's *Anabasis*.

Greek, a. i. and ii. is considered a single, indivisible subject.

b. Xenophon. The first four books of the *Anabasis*.

c. Homer. The first three books of the *Iliad* (omitting II, 494-end) and the constructions, poetical forms, and prosody of Homer's *Iliad*.

f. Prose Composition. Translation into Greek of continuous prose based on Xenophon and other Attic prose of similar difficulty.

g. Sight Translation of Prose. Translation into English at sight based on prose of no greater difficulty than Xenophon's *Anabasis*.

Advanced (counting one unit)

Candidates offering Advanced Greek will be required to have covered substantially the same ground as that included under Greek 3-4 with 9-10. In Homer, for which no equivalent will ordinarily be accepted, the minimum requirement will be 1200 lines in addition to the amount offered for the elementary examination. The candidate must also offer Herodotus, Book VI, and Plato's *Apology*, and in prose composition at least fifteen exercises in Spieker's *Greek Prose Composition*. If candidates wish to offer equivalents for any of the subjects named, they must designate them when they apply for examination in this subject.

HISTORY

Elementary (counting one or two units)

NOTE.—Each of the four divisions, *a*, *b*, *c*, and *d*, counts one (1) unit. Candidates may offer any one (1) or any two (2) of the divisions without restriction.

a. Ancient history, including a brief introductory study of the Oriental peoples, and early mediæval history to the death of Charlemagne, with due reference to art, literature, and government.

b. Mediæval and modern history, from the death of Charlemagne to the present time, with due reference to the growth of the state-system.

c. English history, with due reference to social and political development.

d. American history, with the elements of civil government.

On examination a candidate must show such general knowledge of the subject in each division offered as may be acquired from the study of an accurate text-book of not less than three hundred pages. *Since the questions will be so framed as to require comparison and the use of judgment rather than mere exercise of memory on the part of the pupil*, it is recommended that the teacher prescribe a course of supplementary reading of not less than three hundred pages, dealing with the more important periods and events in each division offered. Geographical knowledge will be tested by requiring the location of places, boundaries, and movements on an outline map.

Advanced (counting one unit)

Candidates offering advanced history will be required to have performed work of the same kind, amount, and quality as that required for History A1-A2—the course prescribed in Barnard College. The work done at school, therefore, should be substantially identical with that course, the nature of which is explained in a syllabus that may be obtained at the University Bookstore. Those candidates who desire to offer history as an advanced subject must have offered for elementary history either *a* and *b* or *c* and *d* and must present themselves for examination upon the two divisions *which they did not offer as an elementary subject*. The examination will presuppose superior ability on the part of the candidate to understand the significance of historical events, movements, or tendencies to discern similarities and contrasts, and to combine results. Especial care should be exercised, therefore, in the selection of the supplementary reading on the more important periods and events in each of the two divisions.

As further evidence of proficiency, satisfactory written work must be presented in the form of a note-book, or bound collection of notes (see Submission of Note-books, p. 49), which must contain not less than five thousand words on each division offered, and must show practice in at least three of the following exercises:

- (a) Notes and digests of reading outside of the text-books.
- (b) Written recitations requiring the use of judgment, and the application to new questions of knowledge already gained.
- (c) Written parallels between historical characters, events, or periods.
- (d) Brief studies of topics limited in scope, prepared outside the classroom and illustrated by some reference to contemporary material.
- (e) Historical maps or charts showing explorations, migrations, conquests, territorial changes, or social phenomena.

ITALIAN**Elementary (counting two units)**

THE AIM OF THE INSTRUCTION.—At the end of the course the pupil should be able to pronounce Italian accurately, to read at sight easy Italian prose, to put into Italian simple English sentences taken from the language of every-day life, or based upon a portion of the Italian text read, and to answer correctly questions on the rudiments of the grammar, as defined below.

THE WORK TO BE DONE.—During the first year the work should comprise: (1) careful drill in pronunciation; (2) the rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax; (3) abundant exercises illustrating the principles of

grammar; (4) the reading and accurate rendering into good English of from 100 to 175 duodecimo pages of graduated texts, with the translation into Italian of easy variations of the sentences read; (5) writing Italian from dictation.

During the second year the work should comprise: (1) the reading of from 250 to 400 pages of modern prose from different authors and of easy poetry; (2) practice in translating Italian into English, and English variations of the text into Italian; (3) continued study of the elements of grammar and of syntax; (4) mastery of all but the rare irregular verb-forms and of the simpler uses of the moods and tenses; (5) writing Italian from dictation.

Suitable texts for the second year are: E. DeAmicis' *Cuore*; G. Giacosa's *Acquazzoni in montagna*; P. Zambri's *Il caporale di settimana*; G. Gozzi's *Poesie e prosce*, scelte da A. Pippi; G. C. Abba's *Da Quarto al Volturmo*; Guido Zalorsi's *Guardare e pensare*; S. Zarira's *Il Signor Io*; A. Stoppani's *Il bel paese*.

LATIN

Elementary (counting four units)

NOTE.—Candidates for admission to the A.B. course must offer NR4, NR5, and NR6, to secure the four (4) prescribed units. Candidates for admission to the B.S. course or the general two-years' course may offer two (2) or three (3) units from this subject. Such candidates must offer NR3 to secure two (2) units; and, to secure three (3) units, NR3 with either NR4 or NR5.

NR3. Second year Latin. It will presuppose reading not less in amount than Cæsar, Gallic War, I–IV, selected by the schools from Cæsar (Gallic War and Civil War) and Nepos (Lives); but the passages set will be chosen with a view to sight translation. The paper will include easy grammatical questions and some simple composition. (See note above.)

NR4 Cicero and sight translation of prose.

i. Prescribed reading: the oration for the Manilian Law and the oration for Archias.

ii. Sight translation of prose of no greater difficulty than ordinary passages of Cicero's orations.

Candidates must deal satisfactorily with both these parts of the paper or they will not receive credit for either part.

NR5. Vergil and sight translation of poetry.

i. Prescribed reading: Vergil's *Æneid* I, II, and either IV or VI at the option of the candidate, with questions on the subject-matter, literary and historical allusions, and prosody.

ii. Sight translation of poetry of no greater difficulty than Vergil's *Æneid*.

Candidates must deal satisfactorily with both these parts of the paper, or they will not receive credit for either part.

NR6. Advanced prose composition. The examination will demand

thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for will be such as are common in the reading of the preparatory course of four years.

The foregoing requirements are in substance identical with those recommended for adoption by the American Philological Association at its annual meeting in December, 1909, viz.:

I. Amount and Range of the Reading Required

1. The Latin reading required of candidates for admission to college, without regard to the prescription of particular authors and works, shall be not less *in amount* than Cæsar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, *Æneid*, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and *De Senectute*) and Sallust (Catiline and Jugurthine War); Vergil (*Bucolics*, *Georgics*, and *Æneid*) and Ovid (*Metamorphoses*, *Fasti*, and *Tristia*).

II. Subjects and Scope of the Examinations

1. TRANSLATION AT SIGHT.—Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. PRESCRIBED READING. Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias, and Vergil, *Æneid*, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. GRAMMAR AND COMPOSITION. The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

Advanced (counting one unit)

Candidates offering Advanced Latin will be required to have covered substantially the same ground as that included under the course prescribed for freshmen. In Horace, for which no equivalent will ordinarily be accepted, the minimum requirement will be the first and third books of the Odes, with a satisfactory knowledge of the prosody. The candidate must also offer Livy, Book XXI entire, and Book XXII, chapters 41-53, inclusive (or Vergil, Eclogues, and selections from Ovid), and in prose composition fifteen exercises from Part I and ten exercises from Part II, of Gildersleeve and Lodge's Prose Composition. If candidates wish to offer equivalents for any of the subjects named, they must designate them when they apply for examination in this subject.

MATHEMATICS**Elementary (counting two and one-half units)***a.* Elementary algebra.

i. The four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and lowest common multiple by factoring; fractions, including complex fractions, ratio and proportion; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on linear equations; radicals, including the extraction of the square root of polynomials and of numbers; exponents, including the fractional and negative.

ii. Quadratic equations, both numerical and literal; simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations; problems depending upon quadratic equations; the binomial theorem for positive integral exponents; the formulas for the n th term and the sum of the terms of arithmetic and geometric progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

c. Plane geometry.

The usual theorems and constructions of good text-books, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons, and the measurement of the circle; the solution of numerous original exercises, including loci problems; applications to the mensuration of lines and plane surfaces.

Advanced (counting one-half, one, or one and a half units)

A candidate may offer one or more of the following subjects, each of which is equivalent to one-half unit.

For admission to the college course in Analytic Geometry in the freshman year, the student must have offered Plane Trigonometry at entrance and must take in the freshman year those parts of Mathematics A the equivalents of which were not offered at entrance.

b. Advanced algebra. Permutations and combinations, limited to simple cases; complex numbers, with graphical representation of sums and differences; determinants, chiefly of the second, third, and fourth orders, including the use of minors and the solution of linear equations; numerical equations of higher degree, and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes's rule of signs and Horner's method, but not Sturm's functions or multiple roots.

d. Solid geometry.

The usual theorems and constructions of good text-books; including the relations of planes and lines in space; the properties and measurements of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle; the solution of numerous original exercises, including loci problems; applications to the mensuration of surfaces and solids.

f. Plane trigonometry.

Definitions of relations of the six trigonometric functions as ratios, circular measurement of angles; proofs of principal formulas, in particular for the sine, cosine, and tangent of the sum and the difference of two angles, of the double angle and the half angle, the product of expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas; solution of trigonometric equations of a simple character; theory and use of logarithms (without the introduction of work involving infinite series); the solution of right and oblique plane triangles, and practical applications.

MUSIC (counting one unit)

The candidate may offer either *a* or *b*.

a. **Musical Appreciation** (counting one unit)

The candidate is expected to have:

1. A general knowledge of the principal musical forms—song, classic dance, fugue, sonata (all movements), symphony—and of their historical development.

2. In 1912 a general knowledge of the lives and environment of at least ten composers, including Bach, Mozart, Beethoven, Schubert, Chopin, and five of the following: Purcell, Handel, Gluck, Haydn, Cherubini, Weber, Rossini, Glinka, Mendelssohn, Schumann, Wagner, Verdi.

In 1913 a general knowledge of the lives and environment of at least five of the following: Handel, Gluck, Haydn, Weber, Mendelssohn, Schumann, Wagner, Verdi, Brahms, Tschaikowsky, Grieg, MacDowell.

3. ¹ Familiarity with certain designated works. The works set for 1912 are:

<i>Bach:</i>	Prelude I and Fugue I from Well-Tempered Clavichord. Gavotte from Sixth Violoncello Suite.
<i>Handel:</i>	Air with Variations ("The Harmonious Blacksmith").
<i>Haydn:</i>	Largo from String Quartet (op. 74, No. 3).
<i>Mozart:</i>	Overture to "The Magic Flute." Symphony in G Minor (entire).
<i>Beethoven:</i>	Sonata Pathétique (op. 13, entire). Larghetto from Second Symphony. Allegro con Brio from Fifth Symphony.
<i>Weber:</i>	Overture to "Der Freischütz."
<i>Schubert:</i>	Moment Musical in F Minor (op. 94, No. 3). Song, "The Erl-King." Song, "Hark, Hark, the Lark."
<i>Mendelssohn:</i>	Scherzo from "Midsummer Night's Dream." "Spinning Song" (op. 67, No. 4).
<i>Chopin:</i>	Polonaise (op. 40, No. 1). Nocturne (op. 37, No. 2).
<i>Schumann:</i>	"Aufschwung" (op. 12, No. 2). Song, "Im wunderschönen Monat Mai."
<i>Wagner:</i>	Overture to "Tannhäuser." Siegfried's Funeral March, from "Götterdämmerung."

The works set for 1913 are:

<i>Bach:</i>	Prelude II and Fugue II, Book I, Well-Tempered Clavichord. Gavotte from Sixth English Suite.
<i>Handel:</i>	The Hallelujah Chorus.
<i>Haydn:</i>	Slow Movement from "Emperor" Quartet (op. 76, No. 3).
<i>Mozart:</i>	Symphony in G Minor (entire).
<i>Beethoven:</i>	Sonata (op. 31, No. 3, entire). Slow Movement from Second Symphony. First Movement from Seventh Symphony.
<i>Schubert:</i>	First Movement from Unfinished Symphony. Song, "The Erl-King."

¹ The examination in 3 will be held only in September and in January, and will be open only to candidates who have passed the examination in 1 and 2.

<i>Schubert:</i>	Song, "Hark, Hark, the Lark."
<i>Mendelssohn:</i>	Overture to "Midsummer Night's Dream."
<i>Chopin:</i>	Ballade (op. 47). Polonaise (op. 26, No. 1). Nocturne (op. 37, No. 2).
<i>Schumann:</i>	Allegro from Faschingsschwank (op. 26, No. 1). Song, "Im wunderschönen Monat Mai."
<i>Wagner:</i>	Overture to "Tannhäuser." Prize Song from "The Mastersingers."

In the examination in 3 the candidate will be expected to identify characteristic portions of the works set, when played by the examiner, and to give intelligent information concerning the form and character of the works themselves. The test will not require ability to perform nor to read from printed music.

b. Harmony (counting one unit)

The candidate should have acquired:

1. The ability to harmonize, in four vocal parts, simple melodies of not fewer than eight measures, in soprano or in bass—these melodies will require a knowledge of triads and inversions, of diatonic seventh chords and inversions, in the major and minor modes; and of modulation, transient or complete, to nearly-related keys.

2. Analytical knowledge of ninth chords, all non-harmonic tones, and altered chords (including augmented chords). [Students are encouraged to apply this knowledge in their harmonization.]

It is urgently recommended that systematic ear-training (as to interval, melody, and chord) be a part of the preparation for this examination. Simple exercises in harmonization at the pianoforte are recommended. The students will be expected to have a full knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use.

PHYSICS (counting one unit)

The candidate should be familiar with the elementary principles of physics and some of their practical applications and should be able to solve simple numerical problems. The preparation of the candidate should include:

a. The study of one of the standard text-books in use in secondary schools.

b. Instruction by lecture-table demonstrations in which the phenomena of physics are shown and the principles qualitatively illustrated.

c. Individual laboratory work, comprising at least thirty exercises. A suitable selection of experiments may be made from the list published

by the College Entrance Examination Board. An indexed note-book of the experiments must be submitted. (See Submission of Note-books, page 49.)

PHYSIOGRAPHY (counting one unit)

NOTE—This is identical with the subject called Geography by the College Entrance Examination Board.

The candidate's preparation in physiography should include the study of one of the modern text-books by Davis, Tarr, Dryer, or Gilbert and Brigham, together with an approved laboratory and field course of at least forty exercises actually performed by the candidate. Each division of the subject should receive approximately the same proportion of attention in the laboratory as in the class-work. It is suggested that the exercises be divided somewhat as follows: Earth as a globe, 5; Ocean, 5; Atmosphere, 12; Land, 18. An indexed note-book containing the record of these exercises must be submitted. (See Submission of Note-books, page 49.)

[SPANISH

Elementary (counting two units)

THE AIM OF THE INSTRUCTION.—At the end of the course the pupil should be able to pronounce Spanish accurately, to read at sight easy Spanish prose, to put into Spanish simple English sentences taken from the language of every-day life, or based upon a portion of the Spanish text read, and to answer questions on the rudiments of the grammar, as defined below.

THE WORK TO BE DONE.—During the first year the work should comprise: (1) careful drill in pronunciation; (2) the rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax; (3) exercises containing illustrations of the principles of grammar; (4) the reading and accurate rendering into good English of from 100 to 175 duodecimo pages of graduated texts, with translation into Spanish of easy variations of the sentences read; (5) writing Spanish from dictation.

During the second year the work should comprise: (1) the reading of from 250 to 400 pages of modern prose from different authors; (2) practice in translating Spanish into English, and English variations of the text into Spanish; (3) continued study of the elements of grammar and syntax; (4) mastery of all but the rare irregular verb-forms and of the simpler uses of the moods and tenses; (5) writing Spanish from dictation.

Suitable texts for the second year are: Valera's *El pájaro verde*; Alarcón's *El final de Norma*, *El capitán Veneno*; Valdès's *José*; Galdós's *Doña*

Perfecta; Marianela; Padre Isla's version of Gil Blas; Carrion and Aza's Zaragüeta.

ZOÖLOGY (counting one unit)

The following outline includes the principles of zoölogy which are indispensable to a general survey of the science. It is planned for a full year's course. It is not intended to indicate order of study of the topics—this must be left to the teacher and the text-book.

1. The general natural history—including general external structure in relation to the adaptations, life histories, geographical range, relations to other plants and animals, and economic relations—of common vertebrates and invertebrates so far as representatives of these groups are obtainable in the locality where the course is given. The types suggested are a mammal, bird, lizard, snake, turtle, newt, frog, dogfish or shark, bony fish, clam, snail, starfish, earthworm, planarian, hydra, sea-anemone, paramoecium. In the case of arthropods, pupils should become familiar with common crustaceans, spiders, myriapods, and insects representing at least five orders. Actual examination of common animals with reference to the above points should be supplemented by reading giving natural-history information.

It is not expected that there will be time for making extensive note-books on the natural-history work; rather will the work in this line take the form of laboratory demonstrations. So far as time permits, drawings and notes should be made. The note-book mentioned below should contain at least drawings on the external structure of four animals not studied under Section 3, preferably two insects, a mollusk, and a second vertebrate.

2. The classifications of animals into phyla and leading classes (except the modern subdivisions of the worms) and the great characteristics of these groups—in the case of insects and vertebrates the characteristics of the prominent orders. The teaching of classification should be by practical work so as to train the pupil to recognize animals and to point out the chief taxonomic characteristics. The meaning of species, genera, and larger groups should be developed by constructive practical work with representatives of insect or vertebrate orders.

3. The general plan of external and internal structure, not the anatomical minutiae, of one vertebrate (preferably frog or fish) in general comparison with the human body; an arthropod (preferably a decapod); an annelid (earthworm or *Nereis*); a coelenterate (hydroid, hydra, or sea-anemone); a protozoön (a ciliate, and amœba when possible). In place of any of the above types not locally available there may be substituted a second vertebrate, an insect, a mollusk, or an echinoderm. Tissues, the study of which is recommended as optional,¹ should be examined first

¹ Topics marked "optional" are regarded as desirable for the best high-school zoölogy but will not be required in examinations.

with the unaided eye, in such a structure as a frog's leg, and then with a microscope demonstrate the relations of cells and intercellular substance in epithelium and cartilage; and, if possible, in other tissues. The functions of the chief tissues and their positions in the body of a vertebrate should be pointed out.

4. (a) The general physiology of above types, involving the essentials of digestion, absorption, circulation (respiration), cell-metabolism, secretion, excretion, and nervous functions. This should apply comparatively the essentials of elementary work in human physiology. Demonstrations and experiments, such as are suggested in high-school text-books on human physiology, should be introduced, or recalled if not previously well presented in elementary physiology, in connection with discussion of the chief functions. As far as practicable structure and function should be studied together.

(b) Comparison of the general life-processes in animals and plants (in connection with botany if zoölogy is first studied).

5. The very general features of asexual reproduction of a protozoön (preferably *Paramæcium*); alteration of generations in hydroids; reproduction and regenerations of *Hydra*; the very general external features of embryological development in a fish or frog; and (*optional*) the general cellular nature (not centrosomes and the like) of germ-cells, fertilization and cell-division in developing eggs should, as far as possible, be demonstrated and briefly described. Also, the most interesting features of development should be pointed out in the case of other animals studied.

6. The prominent evidence of relationship, suggesting evolution, within such groups as the decapods, the insects, and the vertebrates should be demonstrated. A few facts indicating the struggle for existence, adaptation to environment, variations of individuals, and man's selective influence should be pointed out; but the factors of evolution and the discussion of its theories should not be attempted.

7. (*Optional*.) Some leading facts regarding the epoch-making discoveries of biological history and the careers of such eminent naturalists as Darwin, Huxley, Pasteur, and Agassiz should be presented.

The above outline of a course in general zoölogy should be developed on the basis of a course of laboratory study guided by definite directions. This should be supplemented by the careful reading of at least one modern elementary text-book in general zoölogy. At least two-thirds of the time should be devoted to the practical studies of the laboratory. If good nature-studies have not preceded the course in high-school zoölogy, pupils should be encouraged to do supplementary work in the line of natural history. A note-book with carefully labelled outline drawings of the chief structures studied anatomically (Section 3), and the drawings mentioned under natural history (Section 1), and with notes on demonstrations and in explanation of drawings, with dates and an index, must

be submitted. It will be graded as one-third of the examination. (See Submission of Note-books below.)

SUBMISSION OF NOTE-BOOKS, DRAWINGS, ETC.

All work submitted must be duly certified to in ink by the teacher in the following form:

Teacher's Certificate

.....School
.....19....

I certify thathas personally performed, as recorded by her in this note-book,experiments in the laboratory of theSchool, during the year

The laboratory course has occupied time equal tohours of 60 minutes each.

Signed.....

Instructor in.....

The teacher may here record the final grade on this laboratory work ofper cent.

Drawings should bear a similar certification, or, in case of work not done under instruction, should be accompanied by the candidate's own signed declaration. Drawings must be submitted at the time of examination. Candidates desiring their return should apply after the June examinations to the Secretary of the College Entrance Examination Board, after the September and January examinations to the Chairman of the University Committee on Undergraduate Admissions. Candidates submitting drawings with the credentials of the State Education Department should send them to the Secretary of Barnard College at least ten days prior to the opening of the term, and should apply to the Secretary of Barnard College for their return.

Drawings

In June candidates taking the examinations in botany, chemistry, physics, geography, or zoölogy should forward their laboratory note-books in these subjects directly to the Secretary of Barnard College.

In September or in January candidates taking the examinations in botany, chemistry, physics, physiography, or zoölogy should submit their note-books to the proctor in the examination room.

Science Note-books

Candidates desiring the return of these note-books should apply to the Chairman of the University Committee on Undergraduate Admissions. Candidates submitting laboratory note-books with the credentials of the State Education Department should send them to the Secretary of Barnard College at least ten days prior to the opening of the term, and should apply to the Secretary of Barnard College for their return.

English exercise books, submitted in lieu of examination in English *a* (Reading and Practice), advanced English essays, or advanced history note-books should be sent to the Secretary of the University at least two weeks before the examinations begin. Within ten days the candidate will be informed whether or not the work submitted has been accepted. Candidates desiring the return of their history note-books should apply to the Chairman of the University Committee on Undergraduate Admissions. English exercise books will not be returned to the writers.

All note-books uncalled for one year from the date of submission will be destroyed.

REGISTRATION AND ENROLMENT

All properly qualified students, with the exception of those classed as non-matriculated special students (see p. 27), may matriculate at Barnard College either as candidates for a degree or as special students who are permitted to attend such courses as they are qualified to take but who are not enrolled as candidates for a degree.

Before attending any academic exercise every student must comply with the regulations in regard to registration and payment of fees. She must present herself in person to furnish the information necessary for the College records.

Every new student must also at the time of registration file a statement of the courses which the Provost, on the recommendation of the Committee on Instruction, has authorized her to pursue. Students already in College are required to give notice of their choice of elective courses for the ensuing year to the Registrar on or before Friday, May 3, 1912. Proper blanks for this purpose will be provided by the Registrar's office. Students should not confuse the filing of elective blanks with registration.

The office of the Registrar will be open for registration from Wednesday, September 18, to Tuesday, September 24, 1912, and on Monday and Tuesday, February 3 and 4, 1913. New students may register also on the day following each of these periods.

Students registering later must pay an additional fee of \$5. They may, however, if unable through no fault of their own to complete their registration, file a provisional statement within the statutory period. Students will be held directly accountable for absences incurred owing to late registration.

Every student who holds a scholarship must present her scholarship certificate to the Bursar at the time of registration.

The Dean, on the recommendation of the Committee on Instruction, may for reasons of weight grant a leave of absence to a student in good standing.

An honorable discharge is granted to any adult student in good standing, who may desire to withdraw from the College; a minor **Honorable** must submit the written assent of her parents or guardians. **Dismissal**

GENERAL STATEMENT REGARDING FEES AND THE REGULATIONS GOVERNING THEIR PAYMENT

All fees are payable in advance at the Bursar's Office. Every student who fails to register within the limits of time fixed by the regulations of the University shall be permitted to register only with the consent of the Dean, and by the payment of an additional fee of \$5. Students who enter late are required to pay the full charge for tuition for the half-year in which they register.

For an examination or any single series of examinations taken at any other time than at the conclusion of a course actually attended a fee of \$5 is charged.

The registration or matriculation fee must be paid at the time of entrance before an official record of a student's attendance can be noted.

The Dean may withdraw the privileges of any student who is delinquent in the payment of fees.

Checks should be made payable to the order of Barnard College, and addressed to the office of the Bursar.

Students are requested in cases of withdrawal from the College during the academic year to notify the Registrar in writing without delay. No application for a return of fees can be considered unless **Withdrawal** such notice is given at the time of withdrawal.

FEES

For Matriculation or Registration	\$ 5 00
Required of all students at entrance. This fee is payable but once and is never refunded.	
For late registration (see p. 50)	5 00
For tuition , payable at the beginning of each half-year	75 00
Students not candidates for a degree are charged at the rate of \$7.50 a half-year for each point of instruction, with a maximum fee of \$75 for each half-year. If the entire fee is less than \$100.00 the whole must be paid upon registration.	
For examination , payable in each case before the examination is held:	
For entrance (see p. 20)	5 00
For any examination or single series of examinations taken at any other time than at the conclusion of a course actually attended, whether taken prior or subsequent to admission	5 00

For the degree	\$15 00
For laboratory work	
Botany (Courses 51, 52, 53, 54, 55, 56), each course	1 25
Botany (Courses 151, 152, 153, 154, 156, 158, 159, 160, 161, 162), each course	2 50
Chemistry (Courses 5, 6), each course	2 00
Chemistry (Courses 43, 44), each course	7 50
Chemistry (Courses 63, 64), each course	6 00
Chemistry (Courses 105, 106, 145, 146), each course	10 00
Zoölogy (Courses 1, 2, 3, 4), each course	2 50
Should Course 3 be taken in connection with Course 1, or Course 4 be taken in connection with Course 2, or Course 102, the one fee covers both courses.	
Zoölogy (Courses 5, 6, 7, 8), each course	1 25
Zoölogy (Courses 53, 54, 101, 102, 151, 152), each course	2 50
For the use of the gymnasium	7 00
Required of every student.	

DORMITORY FEES

Deposit	\$15 00
Payable in advance to secure assignment of room, and held until final closing of accounts for the year as security for damage to rooms, fittings or furniture, or for any other indebtedness.	
Electricity, charged for by meter.	
Board	225 00
Payable in two equal instalments in advance, on or before taking possession of room, and on February 1.	
Rent	
Payable in two equal instalments in advance, on or before taking possession of room, and on February 1.	
Single rooms	140-270 00
Two-room suites (for one person)	350-385 00
Three-room suites (for two persons)	440-470 00
Private bath (for one, two, or three persons)	50 00

ESTIMATED NECESSARY EXPENSES

Board and single room, \$365 to \$495 for the academic year.
 Electricity, \$5.
 Matriculation fee, \$5.
 Annual tuition fee, \$150.
 Gymnasium fee, \$7.
 Text-books, from \$10 to \$20 each year.
 Final examination for the degree, \$15.

RESIDENCE HALL

Brooks Hall, the residence hall for Barnard College students, will open on Monday, September 23, 1912, and will close on Saturday, June 7, 1913. Candidates for admission or students who wish to secure accommodations in Brooks Hall during the week of the September entrance or deficiency examinations should make arrangements directly with the Mistress of the Hall, not later than September 1.

Full information in regard to the situation and cost of rooms, the advance deposit, the charge for electric light, and the residence scholarships is published in a separate pamphlet, to be had on application to the Mistress of Brooks Hall. All correspondence regarding accommodations in Brooks Hall should be addressed to the Mistress of the Hall, 607 West 116th Street, New York, N. Y. For the dormitory fees see p. 52.

The post-office address for residents is Brooks Hall, 607 West 116th Street, New York, N. Y.

THE PROGRAM OF STUDIES

Upon satisfactory completion of a curriculum arranged on one of the plans to be described below (pp. 55-57) the student is recommended by the Faculty of Barnard College to the Trustees of Columbia University for the degree of Bachelor of Arts or Bachelor of Science.

The principles of the program of studies are as follows:

1. The requirement for graduation is 124 points. The term point usually signifies the satisfactory completion of work requiring attendance at class one hour or in a laboratory two hours a week for one half-year.
2. Studies are either prescribed, *i.e.*, obligatory upon all candidates for a degree, or elective, *i.e.*, to be taken, with certain restrictions, at the pleasure of the student.
3. Prescribed studies, with the exception of Economics A, must be taken as far as practicable during the first two years of residence; and subjects taken in college which are continuations of subjects offered at entrance must be taken as far as possible in the first year.
4. No courses other than those specified in the Announcement may be taken except by students specially qualified to pursue them with advantage, and with the consent of the Provost, on the recommendation of the Committee on Instruction.
5. No combination of courses amounting to less than 12 or more than 16 points may be made in any half-year without the consent of the Provost, on the recommendation of the Committee on Instruction.
6. No credit will be given for a one-hour course, unless it is taken in connection with and as a supplement to a cognate course.
7. No more than four hours of class work, or its equivalent in labora-

tory work, or seven hours of class work and laboratory work combined may be taken on the same day.

8. A major subject of at least 18 points, exclusive of prescribed work, must be taken under some one department before graduation.

9. Admission to courses depends upon completion of the prerequisites as stated for each course separately. In all cases the requirements as to prerequisites for any course must be completed before the beginning of the half-year in which the course is given. Where no prerequisite is stated and where no limitation is noted the course may be taken and counted for a degree by any student of the college.

10. To be recommended for a degree, a student must have made at least 84 points in actual college residence, and at least 24 of these in Barnard College. The Faculty has power to suspend this rule in individual cases; but a statute of the University forbids the granting of a degree to any person who has not been a member of the University for a full academic year, *i.e.*, two half-years.

11. All requirements for a degree must be fulfilled by the candidate within six years from the time of her first matriculation as a freshman in college, whether at Barnard or elsewhere; within four and a half years from similar matriculation as a sophomore; within three years from matriculation as a junior; and within one and a half years from similar matriculation as a senior. If the candidate fails to satisfy the requirements within the time here specified, she is to lose credit for all the points gained by her toward the degree, unless, in individual cases, the Faculty shall otherwise direct.

12. No change of program, either by adding or dropping a course, may be made by a student without the written consent of the Provost, on recommendation of the Committee on Instruction. Except on the initiative of the departments or of the Committee on Instruction, such change will be allowed only in the third week after the opening of the first half-year and in the two weeks preceding the opening of the second half-year. Applications by students for change of program for the first half-year must be filed during the second week of that half-year; applications for change of program for the second half-year must be filed before that half-year begins. Until action is taken upon the application, the student must attend the courses originally named in her program.

13. Courses in Extension Teaching, approved by the Committee on Instruction, may be credited toward the degrees of A.B. and B.S. for matriculated students registered in Extension Teaching who maintain a grade at least of C.

Students of Barnard will be allowed to attend extension courses which are approved by the Committee on Instruction, and to count them toward the degrees of A.B. and B.S. under the following regulations:

- a. The election of extension courses must be approved by the Committee on Instruction and by the Director of Extension Teaching.
- b. Students will not be allowed to exceed a total of 16 points, including the points of extension courses, at one time, save with the special permission of the Committee on Instruction, for reasons of weight.
- c. Students desiring to count these courses toward the degrees of A.B. and B.S. must obtain in them a grade at least of C.
- d. Students desiring to count extension courses toward the degrees of A.B. and B.S. in Barnard College must, if the Committee on Instruction so determine, take the regular mid-year or final stated examinations in the parallel courses given at Barnard College, or else their answer books in the examinations given in extension courses must, at the option of the Committee on Instruction, be read and rated by the representatives of the proper departments in Barnard College.

Before final choice of elective studies, all students should consult their advisers (see p. 60), the Committee on Instruction, and, in case of any doubt, the instructors in charge of particular courses as well. Electives must be chosen on some consistent plan. Conflicts between courses falling at the same hours are to be avoided by careful study of the Scheme of Attendance at the end of this volume, which has been drawn up with a view to making possible for every one the selection of a reasonable number of harmonious elective courses that shall not conflict in hours with each other or with prescribed courses. It often happens that some of the courses of one department form valuable supplements to certain courses of another, so that combinations of work under two or more departments are very desirable. In all such cases the best selections can be made only after consultation with officers of one or more of the departments concerned. This applies particularly to the major subject of 18 points.

I THE PROGRAM OF STUDIES FOR THE DEGREE OF BACHELOR OF ARTS

Unless their equivalents have been offered for admission the following courses are prescribed:

English A and B.....	12 points
French A and German A (see new requirements below).....	12 "
History A.....	6 "
Latin A.....	6 "
Mathematics A.....	6 "
Philosophy A.....	6 "
Physical Education A and B.....	4 "
Economics A.....	6 "
Chemistry 5-6 or Physics 11-12.....	6 "
Botany, Chemistry, Geology, Physics, Experimental Psychology, or Zoölogy: two half-year courses in addition	

to Chemistry 5-6 or Physics 11-12 or any course in science that may have been offered for admission.....	6 points
Major subject of.....	18 "
Free electives to complete the total of.....	124 "

New Requirements in Modern Languages

Students who enter Barnard College in 1912, 1913, or 1914, and who have offered at entrance at least three (3) units in modern languages (see p. 17), have the option of satisfying, in place of the old requirements above stated, the following new requirements:

No modern language course in college will be prescribed. Before being registered as seniors, all students, except those who have offered Greek at entrance or who have taken Greek 1-2 in college, must satisfy the departments of Romance Languages and Germanic Languages that they have a working knowledge of French and German. In special cases, with the consent of the Committee on Instruction, Spanish or Italian may be substituted for French.

As a rule the departmental test will take the form of an oral examination in translation at sight. It may be taken at any time during the college course and must be taken before May 1 of the junior year.

A student who offers Greek at entrance or who takes Greek 1-2 in college will be obliged to stand the test in only one of the modern languages.

In 1915 and thereafter the foregoing requirements will be prescribed for all students in the A.B. and B.S. courses.

II THE PROGRAM OF STUDIES FOR THE DEGREE OF BACHELOR OF SCIENCE

Unless their equivalents have been offered for admission the following courses are prescribed:

English A and B.....	12 points
French A and German A (see new requirements under I above)	12 "
History A.....	6 "
Mathematics A.....	6 "
Philosophy A.....	6 "
Physical Education A and B.....	4 "
Grouped work in science amounting to at least.....	70 "

which must include:

A major subject of at least 28 points in one of the following natural sciences: Astronomy, Botany, Chemistry, Geography, Geology, Mineralogy, Physics, Experimental Psychology, and Zoölogy, or in Mathematics; and

Two minors of at least 12 points each, one in a subject allied to the major and one in a diverse subject, both to

be chosen from the foregoing list with the addition of Anthropology, which should, as a rule, be taken only in connection with Botany or Zoölogy as a major.

Free electives to complete the total of..... 124 points

III GENERAL TWO-YEARS' COURSE, NOT LEADING TO A BARNARD DEGREE

This general course is specially arranged to furnish the collegiate foundation for professional work at Teachers College leading to the degree of Bachelor of Science in Education (see Education, page 58 below). With some modifications, it is suitable for candidates intending to transfer to the Faculty of Fine Arts for courses leading to the degrees of Bachelor of Architecture and Bachelor of Music (see Architecture and Music, page 58 below). It comprises 64 points of work and includes the following prescribed courses unless their equivalents have been offered for admission:

English A or a more advanced course in rhetoric	6 points
English Literature: two half-year courses	6 "
French, German, Italian, Spanish: two half-year courses in each of two modern languages, preferably French and German	12 "
History A or a more advanced course in history	6 "
Physical Education A and B	4 "
Botany, Chemistry, Geology, Physics, or Zoölogy: two half-year courses in each of two natural sciences that have not been offered for entrance, at least	12 "
Elective courses to complete the total of	64 "

In regard to the choice of elective courses a student should seek the advice of the professor in charge of her prospective major subject in Teachers College or in the Faculty of Fine Arts.

IV COURSES IN THE GRADUATE FACULTIES AND PROFESSIONAL SCHOOLS OPEN TO BARNARD STUDENTS

Political Science, Philosophy, and Pure Science

Certain graduate courses in Columbia University under the Faculties of Political Science, Philosophy, and Pure Science are open, with the consent of the department concerned and the Committee on Instruction, to specially qualified seniors. They may be counted towards the Bachelor's degree, or in case the student has more points than the number required for that degree they may, under certain circumstances, be credited towards the Master's degree. Some of these courses are mentioned at the end of the departmental statements given below. For full information students are referred to the appropriate university announcement.

Architecture

Certain courses in the School of Architecture are open to regular students in Barnard College, and may be credited towards the Barnard degree. They are described below in the departmental statement on page 75.

After two years of collegiate work in Barnard, amounting to at least 62 points credit and including French A or its equivalent, a student may transfer without examination to the Faculty of Fine Arts in Columbia University and become a candidate for the degree of Bachelor of Architecture. The course in the School of Architecture leading to this degree includes 152 points of work and generally requires four years for its completion.

Courses in Landscape Architecture are also offered under the Faculty of Fine Arts.

For full information students are referred to the Announcement of the Faculty of Fine Arts.

Music

Courses in the history and theory of music and in composition, given in the School of Music, are open to regular students in Barnard College and may be credited towards the Barnard degree. They are described below in the departmental statement on page 94.

After two years of collegiate work in Barnard, amounting to at least 62 points credit, a student may transfer without examination to the Faculty of Fine Arts in Columbia University and become a candidate for the degree of Bachelor of Music. The course in the School of Music leading to this degree includes 75 points of work and generally requires two years for its completion.

For full information students are referred to the Announcement of the Faculty of Fine Arts.

Students wishing to combine collegiate work with vocal or instrumental training may, while pursuing courses at Barnard, enroll as regular students at the Institute of Musical Art, Claremont Avenue and 122d Street. They must obtain the consent of the Dean of Barnard College and the Director of the Institute. Work at the Institute will not be counted towards the Barnard degree and must be paid for separately.

Education

Certain courses in the history and theory of education given in Teachers College are open to regular students in Barnard College and may be credited towards the Barnard degree. They are described in the departmental statement on page 84 below.

A student may plan her work in such a way as to earn a professional diploma from Teachers College at the same time as her academic degree

from Barnard College. With the permission of the Dean of Barnard College and the Dean of Teachers College she may transfer to Teachers College at the end of her junior year under the following provisions: A candidate for the degree of Bachelor of Arts must have completed 94 points of work in Barnard College, comprising all of the required courses including a major subject of at least 18 points and Education A. A candidate for the degree of Bachelor of Science must have completed 94 points of work at Barnard College, comprising all of the specifically prescribed courses and, of the grouped work, a major subject of at least 28 points with an allied minor subject of 12 points and Education A.

On receipt of a statement from the Faculty of Teachers College that a student so transferred has satisfactorily completed the requirements for the Bachelor's diploma in Teachers College, the student will be recommended by the Faculty of Barnard College for the degree of Bachelor of Arts or Bachelor of Science, provided she shall have fulfilled the requirements for either of those degrees as laid down in the Announcement of Barnard College.

For full details regarding the major subjects in teaching, their requirements and prerequisites in collegiate work, and the most advantageous division of work in education the student is referred to the current Announcement of Teachers College.

After two years of collegiate work in Barnard, amounting to at least 64 points credit and including the courses listed above under III, a student may, with the consent of the Dean of Barnard College and the Dean of Teachers College, transfer without examination to the professional curriculum of Teachers College and become a candidate for a Teachers College diploma and the degree of Bachelor of Science in Education. The course leading to this degree generally requires two years for its completion.

Religion

Certain courses in the Union Theological Seminary are open, with the consent of the Committee on Instruction and the President of the Seminary, to specially qualified seniors, and may be counted towards the Barnard degree.

Philanthropy

Exceptional advantages are available for students desiring to specialize in economics, sociology, and social economy, in preparation for social and philanthropic work. Besides the courses given at Barnard in economics and social science, certain graduate courses in this department of Columbia University are open, with the consent of the department and of the Committee on Instruction, to specially qualified seniors. Because of the affiliation between the College and the New York

School of Philanthropy, certain courses in the latter institution may also be pursued, with the consent of the Department of Economics and of the Committee on Instruction, and the approval of the Director of the School, by specially qualified seniors, and counted towards the Barnard degree. No extra tuition fee is required. The purpose of this School is to fit men and women for social service in either professional or volunteer work. It offers valuable courses in the housing problem, child helping agencies, the treatment of the criminal, family rehabilitation, the social settlement movement, and kindred subjects. By taking some of this work in her senior year, a Barnard student may anticipate part of the requirements for the diploma of the School of Philanthropy.

ADVICE TO STUDENTS

At the opening of the year the incoming students shall register as is customary, and shall make out their elective blanks subject to the approval of the Committee on Instruction. During the months of November and December each member of the freshman class shall confer with the Dean regarding her studies and other matters that may be of interest to her. During the month of April, after the appearance of the catalogue, each freshman shall consult with any instructor she may choose regarding her election of courses for the sophomore year. No elective blank shall be considered by the Committee on Instruction that does not bear the signature of the adviser.

Before November 1 all deficient students or students with entrance conditions shall consult with the Dean. In April students shall, as during the freshman year, fill out elective blanks subject to the approval of the adviser. The adviser may be any instructor in Barnard College whose work the student has taken in the freshman or the sophomore year, but should preferably be an instructor in the department in which the student means to elect her major subject, which should be chosen not later than the end of the sophomore year. Before May 1, elective blanks bearing the signatures of the adviser and the student shall, as usual, be submitted to the Committee on Instruction for approval.

In April students shall make out elective blanks as in the preceding year. The adviser should be from the department in which the student has elected her major subject and should be the same as the adviser chosen at the end of the sophomore year. Elective blanks shall be filed in accordance with the usual regulations and submitted to the Committee on Instruction for approval. Whenever necessary, the Dean will consult with particular students.

During the senior year students will be advised as necessary in individual cases. They should freely consult the Dean and their instructors, who will gladly give advice either as to the college courses they are taking or concerning possibilities in various lines of work after graduation.

The Senior
Year

GENERAL REGULATIONS REGARDING EXAMINATIONS IN COURSE, CREDIT, AND ADVANCEMENT

Two series of examinations are held every year, one in January and the other in May. These are the only stated examinations. In 1913, the mid-year examinations begin on Wednesday, January 22, the final examinations on Monday, May 19.

Stated Ex-
aminations

No freshman, sophomore, junior, or special student absent from more than one tenth of the exercises in any course during a single half-year shall be entitled to attend the stated examination in that course. Each instance of tardiness shall be counted as half an absence. Should such student exceed the limit allowed in any course, she shall be debarred from the stated examination in that course and may attend it only with the consent of the Dean, on recommendation of the Committee on Instruction.

Debars

Every freshman, sophomore, junior, or special student shall be required to file at the office of the Registrar an explanation of any absence or tardiness on the same day that it occurs, or, in cases where the absence has extended over an entire day or more, on the first day after return.

Special examinations are held as follows: in the first week of March of each year, and within the two weeks preceding the opening of the College in the fall.

Special
Examinations

Such examinations are open, by permission of the Provost, on recommendation of the Committee on Instruction, to

- (a) Students who have received an F in an *elective* course;
- (b) Students who have been absent, for imperative reasons, from the stated examination in any course;
- (c) In rare instances, for reasons of weight, to other students.

In all cases application for permission to take a special examination must be made in writing.

For any such series of examinations, or any such single examination taken at any time other than the stated examination period immediately following the conclusion of the course or courses involved, a fee of \$5 must be paid to the Bursar before the student is admitted to the examination.

The student's performance in a course is rated according to the following grades: A, excellent; B, good; C, fair; D, poor; F, failure.

A student who receives a mark of F in any prescribed course must repeat that course.

No student may count for promotion from any class to the next higher class more than six (6) points of D work. Only twenty-four (24) points of D work can be counted for a degree. Of several courses in which a student is marked D she may choose the ones to be counted.

At the end of every half-year, when all the reports are filed in the Registrar's office, additional credit for high standing is given as follows:

The mark A in courses aggregating six points of work (no course to be counted twice) entitles the student to one point of extra credit, provided she has satisfactorily completed all the work of the half-year and has not fallen below the mark B in any course.

Any student who is credited with 94 points (including all prescribed work) may receive one point of extra credit for each of two courses chosen from among those offered by any single department as counting toward a higher degree,¹ provided the quality of her work in such course be tested by an essay for which a mark of A or B is given in addition to the stated examinations. No student may receive more than one point of extra credit in one half-year under the terms of this rule.

Regular matriculated students are rated as follows:

Freshmen, those who have entrance conditions or have completed less than 26 points of college work;
 Sophomores, those who have no entrance conditions, have completed 26 points of college work, and are not required to repeat prescribed courses amounting to more than 6 points;

Juniors, those who have completed 58 points of college work including all prescribed subjects (except Economics A, one year of natural science, or such other prescribed subjects as they may have been permitted by the Provost, on recommendation of the Committee on Instruction, to postpone);

Seniors, those who have completed 94 points, including all prescribed subjects.

In all cases the requirements for promotion must be met in full before the beginning of the academic year.

A student who fails to meet the requirements for advancement from one class to another may, with the consent of the Provost, on the recommendation of the Committee on Instruction, remain in College and repeat the course or courses in which her deficiency exists, or, in the case of elective courses, other courses equivalent thereto in time. She may not, however, register as a special student.

Should a student fail of advancement in two successive years, she shall

¹ *I.e.*, Master of Arts or Doctor of Philosophy. Such courses are those offered under the Faculty of Political Science, the Faculty of Philosophy, or the Faculty of Pure Science primarily for graduate students, but open also to advanced undergraduates.

be permanently dismissed from the College, unless, for reasons of weight, the Provost, on the recommendation of the Committee on Instruction, shall otherwise determine.

SCHOLARSHIPS

There are, altogether, thirty-nine scholarships and four special funds for the benefit of students who need financial aid. The value of each of these scholarships, unless otherwise stated, is \$150 annually, which sum is applicable to the fees of the year. Under certain circumstances those scholarships known as Student Scholarships may be divided between two applicants.

The scholarships are of two sorts, competitive and non-competitive. Some of the competitive scholarships are awarded to entering freshmen for excellence in entrance examinations. Others are awarded to students already in Barnard for excellence in their college work. The non-competitive scholarships are awarded to students needing financial aid, and, as a rule, only to those who have passed at least one year in college. They are held, unless otherwise stated, for one year only.

Two scholarships may not be held by the same person. Should two scholarships be assigned to the same student in one year, she must at once choose which she will retain. If a student fail to maintain a grade of at least C in all courses which she pursues, or if for any other reason she show herself an unsatisfactory candidate, she shall forfeit her scholarship and, in the case of non-competitive scholarships, shall be ineligible for re-election the following year. No student with entrance conditions unremoved, or with a grade below C in the year previous to that in which she is asking for help, will be eligible for a scholarship. For competitive entrance scholarships a complete set of entrance examinations, *i.e.*, a total of fourteen and a half (14½) units, is required. These examinations should as a rule be taken in June, since the scholarships are generally awarded before the beginning of the first half-year. (In the case of the Pulitzer Residence Scholarships and the Martha T. Fiske Scholarship they may be taken in two successive Junes.) Scholarships vacant in February may however be awarded to candidates entering at that time on the January examinations.

Before the first of April of each year all applications for non-competitive scholarships, accompanied with full credentials, must be filed at the Dean's office upon special blanks to be obtained there. Candidates for the competitive scholarships to be awarded on the basis of the June examinations should, in their application to the Secretary of the College Entrance Examination Board (see p. 19), mention the Barnard College scholarships for which they are competing. For the Pulitzer Residence Scholarships and the Martha T. Fiske Scholarship,

application must be made to the Secretary of Barnard College before May first. In order to qualify for the receipt of her stipend, the holder of a scholarship should report at the office of the Registrar not later than the first day of the academic year.

COMPETITIVE SCHOLARSHIPS

These, subject to the foregoing general regulations for scholarships, are as follows:

I. *Open to entering freshmen:*

Trustees' Competitive Scholarship..... I

Awarded annually by the Board of Trustees to the student who in June passes the best complete entrance examination in all subjects. It may be held for one year only. In case there is no award in June, this scholarship may be awarded the following February to a candidate entering at that time. In this event, it may be held for one half-year only.

Jessie Kaufmann Scholarship..... I

Founded in 1902 by Mr. Julius Kaufmann in memory of his daughter, Jessie Kaufmann. The annual income from \$4,000 is awarded on the merits of the entrance examinations to a student who, after careful investigation, is found to have no relative able to assist her financially. It may be held for the entire college course.

Brooklyn Scholarships..... 12

Founded in 1895 by the Trustees of Columbia University in recognition of the gift to Columbia University by President Low of a memorial building for the University Library. They are open to students who have received their training in either the public or the private schools of Brooklyn, N. Y., and are residents of that city. Three of these scholarships will be awarded annually to qualified competitors who pass in June, without conditions, the best complete entrance examinations in all subjects. They may be held for the entire college course, but a holder, while retaining the title "Brooklyn Scholar," may transfer the income to any properly qualified candidate from Brooklyn without having her action made a matter of public record.

Lucille Pulitzer Scholarships..... 5

Founded by the late Joseph Pulitzer in memory of his daughter, Lucille Pulitzer. They are of two kinds, Residence Scholarships and Non-residence Scholarships.

The Residence Scholarships carry an income of \$600 a year apiece and are open to women who are not residents of New York City or its vicinity. They are awarded on the

merits of entrance examinations taken under the College Entrance Examination Board and on the candidate's general character and power of leadership. The examinations may be taken, if desired, in two successive Junes. The scholarships may be held throughout the college course, provided the recipients continue to maintain a high rank in their college work. The holders are required to reside in Brooks Hall, the Barnard hall of residence. Two of these scholarships are now available, and additional ones will be established with the income accruing to Barnard from the Pulitzer estate.

The Non-residence Scholarships are awarded to students entering the College from the city of New York who are found to have passed excellent entrance examinations and to be worthy of financial aid. They may be held for the first three years of the college course only.

The first (*a*), founded in 1899, carries an annual income of \$400 and will be awarded in 1912, 1915, 1918, and corresponding years.

The second and third, given in 1903, carry annual incomes of \$325 each; (*b*) will be awarded in 1913 and 1916, (*c*) in 1914 and 1917, and corresponding years.

Martha T. Fiske Scholarship..... I

Founded in 1911 by Miss Anna E. Smith, in memory of her sister, Mrs. Martha T. Fiske-Collord. It carries an annual income of \$200. It is awarded on the basis of scholarly ability and general character to some deserving candidate not a resident of New York City or its suburbs, and may be held throughout the college course, provided the recipient continues to maintain a satisfactory standing.

2. *Open to students who have passed at least one year in college:*

Eleonora Kinnicutt Scholarship..... I

Founded in 1911 in memory of Mrs. Francis P. Kinnicutt, who was a Trustee of Barnard College. It carries an annual income of \$200. It is awarded at the end of the freshman year to a student of exceptionally high standing, and may be held for three years, provided the recipient continues to maintain a high rank. It will be awarded in 1912 and 1915.

Emma A. Tillotson Scholarship..... I

Founded in 1910 by the late Mrs. Luther G. Tillotson. It carries an annual income of \$200. It is awarded at the end of the freshman year to a student of exceptionally high standing, and may be held for three years, provided the recipient continues to maintain a high rank. It will be awarded in 1913 and 1916.

William Moir Scholarships 2

Founded in 1912 by the late Mrs. William Moir, in memory of her husband. Each scholarship carries an annual income of \$200.

The first (*a*) is awarded at the end of the freshman year to a student of exceptionally high standing who is in need of assistance, and may be held for three years, provided the recipient continues to maintain a high rank. It will be awarded in 1914 and 1917.

The second (*b*) may be awarded to a student of any class who has shown exceptional scholarly ability and who is in need of assistance.

NON-COMPETITIVE SCHOLARSHIPS

These, subject to the general regulations for scholarships, are as follows:

Student Scholarships..... 4

Given by the Committee of the Trustees on Scholarships. They are supported by the income of a permanent fund that is being established and that at present amounts to \$9,680 and of the Arthur Brooks Fund (see below). The remainder is supplied by annual provision. These are not, as a rule, assigned to incoming students.

Ella Weed Scholarship..... I

Founded in 1895 by the pupils of Miss Anne Brown's School in memory of Miss Ella Weed, who was chairman of the Academic Committee of the Board of Trustees of Barnard College during the first five years of its existence.

Veltin School Scholarship..... I

Founded in 1905 by the alumnae of Mlle. Veltin's School.

Jennie B. Clarkson Scholarship..... I

Founded in 1898 by the late Mrs. W. R. Clarkson.

Emily James Smith Scholarship..... I

Founded in 1899 by Miss Emily H. Bourne in honor of Miss Smith, then Dean of Barnard College. It is awarded in conference with the founder.

Anna E. Barnard Scholarship..... I

Founded in 1899 by Miss Emily H. Bourne in honor of Mrs. John G. Barnard. It is awarded in conference with the founder.

Brearley School Scholarship..... I

Founded in 1899 by pupils and former pupils of the Brearley School.

Eliza Taylor Chisholm Memorial Scholarship..... I

Founded in 1901 by the Alumnae Association of Miss

- Chisholm's School, which association reserves the privilege of precedence for such candidates as it may recommend.
- Graham School Scholarship..... I
 Founded in 1907 by the Graham Alumnae Association.
- Mrs. Donald McLean Scholarship..... I
 Founded in 1906 by the New York Chapter of the Daughters of the American Revolution. It is awarded, in conference with a representative of the Chapter, to a deserving student who agrees to pursue the study of history (chiefly that of the United States) continuously throughout her college course.
- Emma Hertzog Scholarship..... I
 Founded in 1904 by gifts from residents of Yonkers, N. Y. It is awarded, in conference with the Faculty of the Yonkers High School, to a graduate of that school who is entering Barnard College.
- Mrs. Henry Clarke Coe Scholarship..... I
 Founded in 1910 by the National Society of New England Women. It is awarded, on the nomination of the chairman of the Scholarship Committee of the above Society, to a student from New England or of New England parentage, and after the award is once made the Society requires from the beneficiary full obedience to discipline and the highest ideals of scholarship. This may be awarded to an entering freshman.

SPECIAL FUNDS FOR THE AID OF NEEDY AND DESERVING STUDENTS

Arthur Brooks Fund.

A fund of \$5,000, given in 1897 by Miss Olivia E. Phelps Stokes as a memorial of the Reverend Arthur Brooks, D.D., Rector of the Church of the Incarnation and Chairman of the Board of Trustees of Barnard College during the first six years of its existence. This fund is at present applied to the maintenance of the Student Scholarships.

Fiske Scholarship Fund.

A fund of \$5,000, given by the late Mrs. Martha T. Fiske-Collord, the income of which is placed at the disposal of the Dean of Barnard College.

George W. Smith Scholarship Fund.

A fund of \$5,000, given in 1906 by the late Mrs. Martha T. Fiske-Collord as a memorial to Mr. George W. Smith, who was a Trustee of Barnard College. The income of the fund is placed at the disposal of the Dean of the College.

Charles Stewart Smith Scholarship Fund.

Established in 1911 in memory of the late Charles Stewart Smith, who was a Trustee of Barnard College. It provides an annual income of \$250, which is used to assist needy and deserving students.

GRADUATE FELLOWSHIP

Established by an anonymous donor in 1912. It is of an annual value of \$600. The holder is to pursue a year of graduate study at Columbia or any other university or college of approved standing. This Fellowship will be awarded each year as an academic honor to that member of the graduating class of Barnard College who, in the opinion of the Faculty, shows most promise of distinction in her chosen line of work. Should the recipient prove in no need of financial assistance, she may retain the title and honor, but resign the income, which will then be used for other fellowships or scholarships. This Fellowship is not to be applied for, but will be awarded each year as soon as possible after the midyear examinations. Students who have graduated in February will be eligible, as well as those who are to graduate in June.

PRIZES

The following prizes are awarded annually, on the recommendation of the appropriate departments of the Faculty of Barnard College, in accordance with the special conditions named below. No prize will be awarded to any student who falls below grade C in any course during the year in which she is a competitor.

HERRMAN BOTANICAL PRIZE

A prize of \$50, founded by the late Mrs. Esther Herrman, is awarded annually to the most proficient undergraduate student in botany.

KOHN MATHEMATICAL PRIZE

A prize of \$50, founded by Mrs. S. H. Kohn, is awarded annually to a senior for excellence in mathematics. Competitors for this prize must have pursued mathematics continuously during their college course.

THE JENNY A. GERARD MEDAL

The Jenny A. Gerard Gold Medal, given in 1908 by the Society of the Colonial Dames of America in memory of Mrs. James Gerard, late President of the Society, is awarded annually to the undergraduate student of American birth in Barnard College who is most proficient in American Colonial History.

SPERANZA PRIZE IN ITALIAN

A prize of \$50, founded by a former student in memory of the late Carlo Leonardo Speranza, Instructor and Professor of Italian at Barnard

from 1890 until 1911, is awarded annually to a student in Barnard College for excellence in Italian.

The following prizes of Columbia University are by their terms open to students of Barnard College.

THE BUNNER MEDAL

The H. C. Bunner Gold Medal, established by the friends of the late Henry Cuyler Bunner, is awarded annually at Commencement to the candidate for a Columbia degree who shall present the best essay on an assigned subject in American literature. The award will be made by a committee to be appointed by the President. The subject for the essay to be handed in May 1, 1912, is "Mark Twain as a Novelist"; in 1913, "American Dialect Poetry."

EARLE PRIZE IN CLASSICS

A prize of \$50, established in memory of Mortimer Lamson Earle, Instructor in Greek in Barnard College from 1889 to 1895 and from 1898 to 1900, and Professor of Classical Philology from 1900 to 1905, will be open for annual competition to all candidates for the degree of Bachelor of Arts. It will be awarded partly on the basis of the regular work of the year in Greek and in Latin, partly on the basis of a special examination. The special examination will cover specified portions of Greek and Latin literature, sight reading in Greek and in Latin, and prose composition in Greek and in Latin. The special subjects for 1913 will be Thucydides, Book I, through Chapter 138, and Lucan, Book VII.

For the award in 1913, the examination will be held in January. Students are urged to do much of their work for the examination during the preceding summer vacation.

THE CAROLINE PHELPS STOKES PRIZE

The Caroline Phelps Stokes Prize of \$40 is awarded annually at Commencement to that student who, having been regularly enrolled in Columbia College, or Barnard College, or Teachers College, as a candidate for an academic degree, for not less than one academic year, shall be deemed to have written the best essay upon an assigned topic bearing upon the rights of man. The subject for the essay to be handed in May 1, 1912, is "The Doctrine of the Rights of Man as Formulated by Thomas Paine"; in 1913, "The Doctrine of the Rights of Man as Modified by Mazzini's Doctrine of the Duties of Man."

HONORS

Honors are of two kinds, departmental and general honors.

Departmental honors will be granted in any year in any department

for high excellence in that department. Such excellence shall be indicated by the grade of A obtained in courses aggregating at least six points taken during that year, and by the satisfactory performance of additional work assigned by the department.

Departmental Honors Students must announce their candidacy to the head of the department not later than April 1 of the year of candidacy. Except by special decision of the Committee on Honors, no student falling below C in any of the courses taken by her during the year of candidacy will receive honors.

A student who has won honors in any department successively during the last three years of her college residence shall be granted at graduation highest final honors in said department.

General honors will be granted at the end of every college year to students who during that year have obtained grade A in courses amounting to a majority of the points taken by them, providing they have not fallen below grade B in any course in said year other than Physical Education A and B, in which they must not have fallen below grade C.

General Honors

Highest final general honors will be granted at graduation to all students who have obtained grade A in courses amounting to a majority of the points taken by them during the last three years of college residence, provided they have not fallen below grade B in any course in said years other than Physical Education A and B, in which they must not have fallen below grade C.

THE UNIVERSITY LIBRARY

The University Library is open each week-day (except Labor Day, Thanksgiving, Christmas, New Year's Day, Good Friday, and Independence Day), from 8.30 A.M. until 11 P.M., October-June; and until 10 P.M., July-September. All officers, students, and graduates of all departments of the University have free access to the Library and may draw books for home use.

The Library contains about 473,000 volumes, exclusive of unbound pamphlets and duplicates, and some 30,000 German dissertations. About 5,000 carefully selected reference books and many of the most important works on all subjects, in standard editions, representing the leading authors in all literatures, are placed in the general reading-room directly accessible to all readers.

For the convenience of the undergraduates of Barnard College there is also maintained in the Ella Weed Memorial Reading-room at Barnard College a carefully selected reference library of about 7,000 volumes.

An accurate catalogue of the entire Library by authors and subjects is on cards accessible to readers.

CHAPEL SERVICE

Chapel service is held on Monday and Thursday of each week at 12 o'clock in the college assembly room. The service lasts about twenty minutes and is conducted by the Dean, with an address by some clergyman or lay speaker, or by an officer of the University. Attendance is entirely voluntary.

STATISTICS

The following tabular statement indicates the growth of the College from its foundation:

	1889 to 1890	1894 to 1895	1899 to 1900	1900 to 1901	1901 to 1902	1902 to 1903	1903 to 1904	1904 to 1905	1905 to 1906	1906 to 1907	1907 to 1908	1908 to 1909	1909 to 1910	1910 to 1911	1911 to 1912
UNDERGRADUATES:															
Seniors .....	..	9	40	52	51	50	78	83	81	63	59	68	62	53	72
Juniors .....	..	18	40	39	48	74	79	71	78	110	106	108	122	144	154
Sophomores .....	..	18	37	51	72	78	72	75	97	88	95	114	109	115	132
Freshmen (regular)	4	26	54	81	98	92	101	110	111	130	135	161	188	185	226
" (partly regular)	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..
GRADUATE STUDENTS	14	71	171	223	269	294	330	339	367	391	405	451	481	497	584
SPECIAL STUDENTS .....	..	19	82	..	27	36	31	27	18	22	35	25	24	26	20
Non-matriculated .....	..	..	21	41	..	..	..	..	5	6	13	22	30	24	36
Botany	12	26	..	..	..	..	..	..	..	..	..	..	..	..	..
Chemistry	10	3	..	..	..	..	..	..	..	..	..	..	..	..	..
MUSIC STUDENTS .....	..	..	41	37	43	29	41	..	..	..	..	..	..	..	..
STUDENTS FROM TEACHERS COLLEGE	..	..	18	54	47	45	47	77	95	165	167	182	200	201	146
STUDENTS FROM COLUMBIA UNIVERSITY .....	..	..	..	29	45	41	51	62	57	40	38	36	59	62	59
TOTAL REGISTRATION:	22	48	162	161	162	151	170	166	175	233	253	265	313	313	261
DEGREES CONFERRED:	36	119	333	384	431	445	500	505	542	624	658	716	794	810	845
A.B. ....	..	8	39	50	50	47	79	83	75	76	97	98	88	105	..
B.S. ....	..	..	18	..	..	..	..	..	..	..	..	..	2	..	..
A.M. ....	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Ph.D. ....	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..

DEPARTMENTAL STATEMENTS

The following general regulations apply to all courses:

When an announced course has not been applied for by at least three candidates for a degree, the instructor may withdraw it.

Where the hours for laboratory work are not given either in the departmental statement or in the scheme of attendance, they must be arranged after consultation with the officer in charge of the course.

Courses designated by capital letters (except French **B1, B2**) are prescribed. Elective courses are designated by numbers, odd numbers for the first half-year courses and even numbers for the second half-year courses. A compound course is therefore designated by an odd number and the succeeding even number. The numbers from **1** to **99** inclusive are given to courses open only to undergraduates; the numbers from **101** to **199** inclusive are given to courses open to both undergraduates and graduates; the lower numbers in each case being used for the introductory courses.

In the statement of each course the prerequisites are indicated. When no department is named it is to be assumed that the reference is to a numbered course in the same department.

A hyphenated course (*e. g.*, History **A1-A2**) is regarded as a full year course of which the first half is always assumed to be a prerequisite for admission to the second half, and no credit will be given for work dropped at the mid-years or before the completion of the course. A course of which the index signs are separated by a comma (*e. g.*, English **A1, A2**) is regarded as a divisible course of which each half-year may be taken separately.

Courses marked with an asterisk (*) are given at Columbia University. *The number of points credit to be assigned for an advanced course numbered over 100 and given at Columbia University is to be determined in each case by the Committee on Instruction of Barnard College in conference with the instructor or the representative of the department concerned.*

Courses marked with a dagger (†) are given at Teachers College. *Work at Teachers College mentioned herein may be pursued only by regularly enrolled students of Barnard College and only when counting for a Barnard College degree. Certain courses not here specified as being open at Teachers College may, through the courtesy of Teachers College and with the consent of the Committee on Instruction, be taken by such students; but in no case may courses in education not announced in the Announcement be elected by students who are not candidates for a professional degree in*

Teachers College. All special students of whatever class should enroll at Teachers College for Teachers College courses.

For more detailed information in regard to topics, text-books, or methods in any particular course, students are referred to the instructors.

INTRODUCTORY COURSES

1-2—Introductory Survey of Natural and Social Sciences. Professors REIMER, MALTBY, JACOBY, OGILVIE, RICHARDS, CRAMPTON, FARRAND, GIDDINGS, SAIT, and MONTAGUE. 6 points.

M., W., and F., at 1.

Open for credit to freshmen and sophomores only.

This course consists of eight lectures and assigned readings in each of the following subjects: chemistry, physics, astronomy, geology, botany, zoölogy, anthropology, sociology, politics, and philosophy. It is designed to give all students a general idea of the typical problems, methods, and results of the sciences treated and to afford students intending to specialize in science a basis for making an intelligent choice of subject. This course cannot be counted as fulfilling the prescribed requirement in science for the A.B. or the B.S. degree.

ANTHROPOLOGY

1—General Introductory Course. Professor FARRAND. 4 points.

M., W., and F. at 1, and one hour to be arranged.

Open to juniors and seniors.

This course consists of an outline of comparative anthropology. A general discussion of the physical characters of the earliest human remains and their relations to present forms is given. Special stress is laid on the discussion of the mental development of primitive man, together with a description of types of primitive culture and an inquiry into the relation and development of particular phases of culture.

2—General Introductory Course. Professor BOAS. 4 points.

M., W., and F. at 1, and one hour to be arranged.

Open to juniors and seniors.

In this course the subject-matter of anthropology is discussed from an historical and geographical point of view. A general survey of races, languages, and types of culture is given and the growth of each type of culture as influenced by migration of cultural elements is traced. The history of domesticated animals, of cultivated plants, of industries and of beliefs and institutions, is thus treated.

Courses 103, Prehistoric Archæology, Professor SAVILLE and Dr. BERKEY; 104, Prehistoric Archæology of America, Professor SAVILLE and Dr. BERKEY; 105, 106, Ethnology, Primitive Culture, Professor FARRAND; 107, 108, Ethnology of America and Siberia, Professor BOAS; 115, Archæology of the Northern Part of Mexico, Professor SAVILLE; 116, Archæology of Southern Mexico and Central America, Professor SAVILLE; 117, 118, American Languages, Professor BOAS; 121-122, Anthropometry, Professor BOAS; 129, 130, American Languages, advanced course, Professor BOAS; 131, 132, Types of Primitive Social Organization, Dr. GOLDENWEISER, given at Columbia University, are open, with the consent of the Department of Anthropology and the Committee on Instruction, to properly qualified seniors. For fuller information students are referred to the Announcement of the Division of Philosophy, Psychology, and Anthropology.

ARCHITECTURE

***21-22—Ancient Architectural History.** Professor HAMLIN. 4 points.
Tu. and Th. at 10.

***23-24—Mediæval Architectural History.** Early Christian, Byzantine, Romanesque, Gothic, and Oriental architecture. Professor HAMLIN and Mr. BACH. Lectures, 4 points; research work, 2 points.

M. and F., at 9. Research, afternoons of five weeks of second half-year (optional); dates to be arranged in conference with the instructors.

***25-26—Modern Architectural History.** The Renaissance, modern revivals, and American architecture. Professor HAMLIN and Mr. BACH. Lectures, 4 points; research work, 2 points.

M. and F. at 11. Research, afternoons of five weeks of second half-year (optional); dates to be arranged in conference with the instructors.

***53—Theory of Decorative Arts.** Interior decoration, ceramics, textiles, stained-glass, woodwork and ironwork. Mr. BACH and special lecturers. Lectures and 4 plates, 1 point.

Th. at 1.

This course may be taken only in connection with some other course in the department.

***54—Theory of Color.** The scientific basis and æsthetic principles of color as applied to the arts, especially of architecture and decoration. Professor HAMLIN and special lecturers. Lectures and 3 or 4 plates, 2 points.

Th. at 1.

ASTRONOMY

1, 2—General Astronomy, Introductory Course. Professor JACOBY. Lectures, 4 points; with third hour, 6 points.

Tu. and Th. at 1 and a third hour to be arranged during part of the year in the evening, at the Wilde Observatory.

Prerequisite: Mathematics A1, A2.

This course is introductory and descriptive, intended for students who do not desire to specialize. The lectures are illustrated by experiments and the stereopticon. Observatory work includes observation of the sun and moon, planets, satellites, nebulae and stars.

3, 4—General Astronomy, Second Course. Professor MITCHELL. 6 points.

Tu., Th., and S. at 9.

Prerequisite: Course 1, 2.

Course 103, 104, Practical Astronomy, Professor MITCHELL, given at Columbia University, is open with the consent of the Department of Astronomy and the Committee on Instruction, to properly qualified seniors. For fuller information students are referred to the Announcement of the Division of Mathematical and Physical Science.

BOTANY

51-52—Principles of the Morphology and Physiology of Plants. Professor RICHARDS, Miss LATHAM, and Miss BOAS. 2 lectures, 4 hours of laboratory work. Demonstrations to accompany lectures. 8 points.

Lectures M. and F. at 9. Demonstrations W. at 9.

Laboratory fee, \$2.50.

53-54—General Morphology and Development of Plants, Study of Types. Professor HAZEN and Miss BOAS. 2 lectures, 4 or 6 hours of laboratory work. 8 or 10 points.

Tu. and Th. at 10.

Laboratory fee, \$2.50.

Course 53-54 is not open to freshmen. It should ordinarily be preceded by 51-52 but is open, on consultation with the instructor, to students of sufficient training who also either attend the lectures in 51-52 or elect the full 6 hours of laboratory work in Course 53-54.

55-56—Morphology and Classification of Spermatophytes, Study of the Natural Orders. Professor HAZEN. 1 hour lecture or conference, 4 or 6 hours of laboratory work. 6 or 8 points.

Hours to be arranged.

Laboratory fee, \$2.50.

Prerequisite: Course 51-52 or entrance botany.

153—Anatomy of Vascular Plants. Miss LATHAM. 2 lectures and a minimum of 6 hours of laboratory work. 5 points.

Tu. and Th. at 9.

Laboratory fee, \$2.50.

Prerequisite: Course 53-54.

[154—Physiology of Plants from Standpoint of Nutrition. Professor RICHARDS and Miss LATHAM. 2 lectures and a minimum of 6 hours of laboratory work. 5 points.

Laboratory fee, \$2.50.

Prerequisite: Course 153 and some knowledge of chemistry.

Not given in 1912-13.]

Courses 154 and 156 are given in alternate second half-years.

156—Physiology of Plants from Standpoint of Growth. Professor RICHARDS and Miss LATHAM. 2 lectures and a minimum of 6 hours of laboratory work. 5 points.

Tu. and Th. at 9.

Laboratory fee, \$2.50.

Prerequisite: Course 153 and some knowledge of chemistry.

Courses 153, 154, and 156 are open to students only after consultation with the instructor.

158—Structure and Development of Algæ. Advanced course. Pro-

fessor HAZEN. 1 lecture and 6 or 8 hours of laboratory work. 4 or 5 points.

Hours to be arranged.

Laboratory fee, \$2.50.

Prerequisite: Courses 51-52 and 53-54.

159—Structure and Development of Fungi. Advanced course. Professor RICHARDS. 1 lecture and 6 or 8 hours of laboratory work. 4 or 5 points.

Hours to be arranged.

Laboratory fee, \$2.50.

Prerequisite: Courses 51-52 and 53-54.

Courses 158 and 159 are given either the first or second half-year to suit the convenience of the instructors and students. The two courses will not usually be given the same year.

160—Embryology and Laboratory Methods. Practice in methods of technique, with the study of the embryology of one or more types. Professor HAZEN. 8 hours of laboratory work with occasional lectures and outside reading. 4 points.

Hours to be arranged.

Laboratory fee, \$2.50.

Prerequisite: Course 153; parallel: Course 154 or 156.

161, 162—Advanced Physiology and Morphology. Professors RICHARDS, HAZEN, and Miss LATHAM.

Laboratory fee, \$2.50 for each half-year.

Work will be arranged to suit the needs of the students, and credit will be given according to the amount accomplished. While the topics assigned in this course usually involve only individual work of an advanced nature, lectures will be given and reading assigned on the historical development of botany, modern theories of plant breeding and heredity, etc., if a sufficient number of properly qualified students desire them. Some form of essay is usually demanded in connection with the other work.

Open to students only after consultation with the instructor. With the permission of the instructor this course may be taken in successive years.

Journal Club. The advanced students and instructors will meet once a week to read and discuss recent books and papers.

CHEMISTRY

Students are requested to elect courses in the following order: 5-6, 63, 64, 41-42, 43-44.

5-6—General Inorganic Chemistry. Professor REIMER, Miss KELLER, Miss CLARK, and Miss ———. 5 hours, including lectures, discussions, and laboratory work. 6 points.

M., W., and F. at 11. Laboratory work, Tu., W., or Th., 2-4.30; for

students that have passed the entrance examination in chemistry a special laboratory course is arranged on M., 2-4.30.

Laboratory fee, \$4.00.

41-42—Organic Chemistry, Elementary Lecture Course. Professor REIMER. 2 lectures, 1 hour discussion. 6 points.

Tu. and Th. at 9 and a third hour to be arranged.

Prerequisite: Course 5-6. It is urged that Course 43-44 be taken with this course.

43-44—Organic Chemistry, Elementary Laboratory Course. Professor REIMER. A minimum of 6 hours. 6 points.

Hours to be arranged.

Laboratory fee, \$15.00.

Prerequisite: Courses 5-6, 41-42. Recommended as a parallel to Course 41-42.

This course is designed to teach the student the important methods of preparation of organic compounds.

A special laboratory course of 4 hours a week counting as 4 points is offered, after consultation with the instructor.

63—Qualitative Analysis. Miss KELLER. 3 lectures and 8 hours of laboratory work. 7 points.

Tu. and Th. at 10 and a third hour to be arranged; laboratory work, 8 hours, to be taken on M., Tu., and Th. afternoons, 1-4.30.

Laboratory fee, \$6.

Prerequisite: Course 5-6.

The lecture work of this course consists of a study of the elements, especially of the metals, and of methods of qualitative analysis.

64—Quantitative Analysis. Miss KELLER. 3 lectures and 8 hours of laboratory work. 7 points.

Tu. and Th. at 10 and a third hour to be arranged; laboratory work, 8 hours to be taken on M., Tu., and Th. afternoons, 1-4.30.

Laboratory fee, \$6.

Prerequisite: Courses 5-6 and 63.

This course deals with fundamental quantitative methods and with such theoretical problems as are involved in analytical processes.

[105-106—Inorganic Chemistry, Advanced Course. Miss KELLER. 3 lectures and a minimum of 6 hours of laboratory work. 12 points.

Laboratory fee, \$20.

Prerequisite: Courses 5-6, 63, 64, and Physics 1-2 or 11-12.

This course is designed to supplement Courses 63 and 64. The lectures will be devoted to a detailed discussion of the elements, and advanced theoretical chemistry. The laboratory work will consist of practice in mineral analyses, and physical-chemical measurements.

Not given in 1912-13.]

145-146—Organic Chemistry, Advanced Course. Professor REIMER.
3 lectures and a minimum of 6 hours of laboratory work. 12 points.

M., W., and F. at 1.

Laboratory fee, \$20.

Prerequisite: Courses 5-6, 41-42, 43-44, 63, 64.

This course is designed to supplement Courses 41-42 and 43-44. It is a more comprehensive discussion of the most important classes of organic compounds and their relations to each other. Special emphasis will be given to recent theories as to the structure of the compounds and the mechanism of their reactions. The laboratory work consists of the preparation of organic compounds discussed in the lectures and the study of their reactions. In the second half-year, some special problem is assigned to each student.

Journal Club. Professor REIMER and Miss KELLER. 1 hour. The advanced students and the instructors meet for reports and discussion on recent scientific papers.

CLASSICAL PHILOLOGY

Greek

1-2—Elementary Course. Grammar, Composition, Xenophon's *Anabasis*, Homer's *Iliad*. Professor HIRST. 10 points.

M., Tu., W., Th., and F. at 2. (In case of a conflict in hours on one or two days, an effort will be made to change those hours.)

Prerequisite: elementary entrance Latin.

This course may not be begun in the second half-year.

3—Homer and Lucian. Professor VAN HOOK. 3 points.

M., W., and F. at 1.

Prerequisite: Course 1-2 or elementary entrance Greek.

4—Lucian and Plato. Professor YOUNG. 3 points.

M., W., and F. at 1.

Prerequisite: Course 1-2 or elementary entrance Greek.

9-10—Prose Composition. First Course. Dr. STURTEVANT. 4 points.

Tu. at 10.

May be taken in connection with any other course (except 1-2), but not separately.

11—Euripides and Sophocles. Professor PERRY. 3 points.

M., W., and F. at 11.

Prerequisite: advanced entrance Greek or Courses 3, 4.

12—Demosthenes: De Corona; Æschines. Professor VAN HOOK. 3 points.

M., W., and F. at 11.

Prerequisite: advanced entrance Greek or Courses 3, 4.

13—Rapid Reading of Homer. Mr. DEMAREST. 2 points.

M. and W. at 9.

Prerequisite: advanced entrance Greek or Courses 3, 4.

14—Rapid Reading of Herodotus. Professor PERRY. 2 points.

M. and W. at 9.

Prerequisite: advanced entrance Greek or Courses 3, 4.

15—Lucian and Xenophon. Dr. GUERNSEY. 2 points.

Tu. and Th. at 10.

Prerequisite: advanced entrance Greek or Courses 3, 4.

16—Plato. Mr. DEMAREST. 2 points.

Tu. and Th. at 10.

Prerequisite: advanced entrance Greek or Courses 3, 4.

29-30—Prose Composition. Second Course. Mr. DEMAREST. 4 points.

Hours to be arranged.

Prerequisite: Course 9-10.

May be taken in connection with any other course, but not separately.

39-40—Prose Composition. Third Course. Dr. GUERNSEY. 4 points.

Hours to be arranged.

Prerequisite: Course 29-30.

May be taken in connection with any other course, but not separately.

41-42—Greek Literature; lectures and required reading. Professor VAN HOOK. 8 points.

Tu. and Th. at 2 and a third hour to be arranged.

Prerequisite: Courses 11, 12 or 13, 14 or 15, 16 or 17, 18.

For a course on Greek Art see **Classical Civilization 54.**

Latin

A1—Livy: Selections from Books XXI-XXII; Terence (one play). Professors MOORE, VAN HOOK and HIRST, Dr. STURTEVANT, Mr. DEMAREST, Mr. MESSER, and Miss GOODALE. 3 points.

Sections I-IV, M., W., and F. at 1; Sections V-VII, Tu., Th., and S. at 9.

Prescribed for freshmen taking the A.B. course, unless they offered Advanced Latin at entrance.

During the second half-year, **Latin A1** will be repeated on M., W., and F. at 2, for students who enter in February.

A2—Horace: Selected Odes and Satires; Catullus. Professors MOORE, VAN HOOK and HIRST, Dr. STURTEVANT, Mr. DEMAREST, Mr. MESSER and Miss GOODALE. 3 points.

Sections I-IV, M., W., and F. at 1; Sections V-VII, Tu., Th., and S. at 9.

Prescribed for freshmen taking the A.B. course, unless they offered Advanced Latin at entrance.

9-10—Prose Composition. First Course. Mr. MESSER and Miss GOODALE. 4 points.

M. at 9.

May be taken in connection with any other course, but not separately.

11—Horace: Satires and Epistles; Tacitus: Germania. Dr. STURTEVANT. 3 points.

M., W., and F. at 9.

Prerequisite: advanced entrance Latin or Courses **A1, A2.**

12—Juvenal; Martial; Pliny: Letters. Professor HIRST. 3 points.

M., W., and F. at 9.

Prerequisite: advanced entrance Latin or Courses **A1, A2.**

17—Vergil. Professor HIRST. 2 points.

Tu. and Th. at 1.

Prerequisite: advanced entrance Latin or Courses **A1, A2.**

18—Apuleius. Professor KNAPP. 2 points.

Tu. and Th. at 1.

Prerequisite: advanced entrance Latin or Courses **A1, A2.**

29-30—Prose Composition. Second Course. Professor HIRST. 4 points.

Hours to be arranged.

Prerequisite: Course **9-10.**

May be taken in connection with any other course, but not separately.

31—Roman Philosophy: Selections from Cicero and Lucretius. Professor McCREA. 3 points.

M., W., and F. at 11.

Prerequisite: Courses **11, 12, or 17, 18.**

32—Roman Drama: Selected plays of Plautus, Terence and Seneca. Dr. STURTEVANT. 3 points.

M., W., and F. at 11.

Prerequisite: Courses **11, 12, or 17, 18.**

39-40—Prose Composition. Third Course. Professor LOCKWOOD. 4 points.

Hours to be arranged.

Prerequisite: Course **29-30.**

May be taken in connection with any other course, but not separately.

41—Latin Literature of the Republic; lectures and reading. Professor KNAPP. 4 points.

Tu. and Th. at 3 and a third hour to be arranged.

Prerequisite: Courses **11, 12, or 17, 18.**

42—Latin Literature of the Empire; lectures and reading. Professor KNAPP. 4 points.

Tu. and Th. at 3, and a third hour to be arranged.

Prerequisite: Courses 11, 12 or 17, 18.

† 51-52—Latin Readings. Professor LODGE. 6 points.

M., W., and F. at 10.

For a course on Roman Life see **Classical Civilization 51**.

Classical Civilization

51—Roman Life and Thought. Professor KNAPP. 2 points.

Tu. and Th. at 2.

Open to all students.

54—Greek Art. Professor YOUNG. 2 points.

Tu. and Th. at 2.

Open to all students.

ECONOMICS AND SOCIAL SCIENCE

Economics

A1-A2—Outlines of Economics; first half-year. **Practical Economics;** second half-year. Professors MUSSEY, AGGER, and CHADDOCK, and Dr. ANDERSON. 6 points.

Entire class Monday at 3; Section I, Tu. and Th. at 9; Sections II and III, Tu. and Th. at 10; Sections IV and V, Tu. and Th. at 11; Section VI, Tu. and Th. at 1.

Prescribed for juniors and open to specially qualified sophomores.

During the first half-year this course will consist of a study of the characteristics of modern industrial society and of the fundamental economic principles; during the second half-year it illustrates the application of economic principles to such practical questions as money and banking, foreign trade and the tariff, railroads, monopolies, the labor movement and socialism.

***104—Commerce and Commercial Policy.** Professor MUSSEY. 2 points.

M. and W. at 11.

Prerequisite: Course **A1-A2**.

In this course the economic basis of modern commerce and the significance of commerce in its relation to industry is studied. An analysis is made of the extent and character of the foreign trade of the United States, and the nature and effect of the commercial policies of the principal commercial nations are examined.

***106—The Trust and Corporation Problem.** Professor SEAGER. 2 points.

Tu. and Th. at 11.

Prerequisite: Course **A1-A2**.

In this course special attention is given to the trust problem as it presents itself in the United States. Among the topics considered are the rise and progress of industrial combinations, the forms of organization and policies of typical combinations, the com-

mon law and the trusts, anti-trust acts and their results, and other proposed solutions of the problem.

111, 112—Problems of Public Health—Standards of Living. Professor CHADDOCK. 4 points.

Tu. and Th. at 10.

Prerequisite: Course **A1-A2**.

This course emphasizes the importance of the conservation of human energy and powers.

The first semester will be devoted to a study of the conditions that affect the health and welfare of the city community, as well as a practical and concrete presentation of what is being done in European and American communities to raise standards. The second semester will continue the study of city problems with particular reference to standards of living. The effort will be made to analyze man's wants and the extent of their possible satisfaction under present conditions of income and expenditure. The public responsibilities for helping to maintain standards of living will be emphasized by discussion of the need of community control over specific conditions that lower standards by decreasing incomes or increasing outlays.

117—The Labor Problem. Professor SEAGER. 4 points.

Tu. and Th. at 1 and a third hour to be arranged.

Prerequisite: Course **A1-A2**.

Attention in this course is divided about equally between problems connected with labor organizations—collective bargaining, strikes, arbitration, etc.—and problems the solution of which involves legislation—child labor, dangerous trades, the sweating system, immigration, etc. Lectures are supplemented by assigned readings, class discussions, and special essays and reports.

118—History of Socialism. Professor SIMKHOVITCH. 4 points.

Tu. and Th. at 1, and Th. at 11.

Prerequisite: Course **A1-A2**.

This course presents a study of the history and development of the socialist movement during the nineteenth century beginning with the early French and English socialists and ending with contemporary writers. It lays special stress on the theories of Marx and their influence, as well as the political history of their rise and fall. It also deals with the contemporary revisionist movement.

Sociology

†151, 52—Elements of Sociology and Social Progress. Mrs. SIMKHOVITCH. Lectures, reports, conferences. 4 points.

Tu. and Th. at 2.

Open, with the approval of the Department of Economics at Barnard College, to specially qualified juniors and seniors.

The first half of the course is a practical introduction to the study of society with special reference to the life of the industrial classes in cities. The second half of the course treats of social progress—education, recreation, health, labor and industry.

***151, 152—Principles of Sociology.** Professors GIDDINGS and TENNEY. 4 points.

M. and W. at 3.

Prerequisite: Economics **A1-A2**.

EDUCATION

Education A is prerequisite to all other courses in Education. Education B should be taken parallel with other courses in the senior year.

†A—Educational Psychology. Professors THORNDIKE, NORSWORTHY, RUGER, Dr. WHITLEY, and Miss BRONNER. 4 points.

The entire class will meet on Th. at 11, throughout the year; and in sections during the second half-year Tu. and Th. at 10 (Sections II and III) or W. and F. at 10 (Section IV).

Any other section meeting at times stated in the *Teachers College Announcement* may be substituted with the approval of the instructor.

Prerequisite: Philosophy A1 P.

Students who have previously had some work in Education may substitute Course 117-118 or 119-120 for Course A.

†B—History and Principles of Education. Professor MONROE and assistants. 6 points.

Lecture: Tu. at 11; conferences: Section V, Tu. and Th. at 10; Section VI, M. and F. at 3.

Students who have a satisfactory knowledge of the field covered by Education B may substitute Course 105-106 or 107-108 for Course B.

†21-22—The Psychology of Childhood. Professor NORSWORTHY. 4 points.

Section I, Tu. and Th. at 10; Section II, at 2.

Prerequisite: Course A.

†87—Personal Hygiene. Professor WOOD. 3 points.
M., W., and F. at 11.

†88—Educational Hygiene. Professor WOOD. 3 points.
M., W., and F. at 11.

†105-106—Philosophy of Education, Introductory Course. Professor MACVANNEL. 4 points.

Tu. and Th. at 9.

This course may be substituted for Course B by students who have a satisfactory knowledge of the field covered in that course.

Prerequisite or parallel: Courses A and B.

†107-108—Educational Sociology. Professor SUZZALLO. 4 points.
M. and W. at 9.

This course may be substituted for Course B by students who have a satisfactory knowledge of the field covered in that course.

Prerequisite or parallel: Courses A and B.

†119-120—Readings in Educational Psychology. Professor NORS-
WORTHY. 4 points.

M. and W. at 4.

This course may be substituted for Course A by students who have previously had some work in education.

†121-122—Educational Psychology. Professor THORNDIKE. 4 points.

M. and W. at 11.

Prerequisite or parallel: Courses A and B.

†187-188—The Hygiene of Childhood and Adolescence. Professor
WOOD. 2 points.

S. at 11.

Open only to seniors.

ENGLISH

A1, A2—English Literature and Composition. Professors BALDWIN and
HUBBARD, Miss WEEKS, Mr. HALLER, Miss HOWARD, Miss STURTEVANT,
Miss LAPE and Mr. ———. 6 points.

This course is introductory to the college study of English literature and English composition, and is required of all freshmen. **A1** is primarily a course of composition; **A2**, a course of literature. **A2C** is the corresponding second-term composition course for students entering college in February; **A1L**, the corresponding literature course for these students in the first term of the following year.

Sections I, II, and III, Tu., Th. and S. at 10; Sections IV and V, Tu. and Th. at 11 and S. at 10; Section VI, **A1L**, and **A2C**, M., W., and F. at 10.

B1, B2—English Composition. Professors BALDWIN and TASSIN, Mr. HALLER, Miss HOWARD, Miss FOX, and Miss LAPE. 6 points.

B1 is a course of written and oral argument, identical for all sections. **B2** provides several directions of study: for Sections I-IV, essay-writing combined with the study of early nineteenth-century literature; for Section V, descriptive and narrative writing; for Section VI, public speaking. The choice in each case is conditioned on achievement in Courses **A1** and **B1**, and must be approved by the department. Students recommended by their instructors in Course **A1**, **A2** may be relieved of the obligation to take **B2** by taking Course 23, 24.

Sections I*, III*, and V, Tu. and Th. at 9, and a third hour to be arranged; Sections II*, IV*, and VI, Tu. and Th. at 11, and a third hour to be arranged: Section VII (**B1** only), M. and W. at 2, and a third hour to be arranged.

Prerequisite: Course **A1, A2**.

Prescribed for sophomores.

* In place of the third hour to be arranged for criticism of themes, **B2** uses a third recitation-hour on Saturday, at 9 for Sections I and III, at 11 for Sections II and IV.

1, 2—English Composition. Professor BREWSTER. 6 points.

Tu. and Th. at 10, and a third hour to be arranged.

Prerequisite: Course B1, B2.

Daily themes (first half-year) and fortnightly themes (second half-year). Except in special cases approved by the department, the second half-year may not be elected without the previous completion of the first half-year. The course being limited to thirty students, written permission from the department is required.

7-8—Elocution. Professor TASSIN. 4 points.

M., W., and F. at 1.

Not open to freshmen.

23, 24—English Literature of the Early Nineteenth Century. Professor HUBBARD. 4 points.

Tu. and Th. at 10.

Prerequisite: a grade of at least C in Course A1, A2.

Open to sophomores only.

25, 26—English Poetry from 1550 through Milton. First term: from 1550 to 1625; second term: from 1625 to 1674. Professor TRENT. 6 points.

M. and W. at 10.

Open to all juniors and seniors, and to specially qualified sophomores who are recommended by their instructors in Course A1, A2.

27, 28—English Poetry from Dryden to the Victorian Period. First term: from Dryden to Wordsworth; second term: from Wordsworth to 1830. Professor TRENT. 6 points.

M. and W. at 11.

Open to all juniors and seniors and to specially qualified sophomores who are recommended by their instructors in Course A1, A2.

29-30—English Literature from the Earliest Period to the Norman Conquest. First term: Anglo-Saxon prose; second term: Beowulf and selected Anglo-Saxon poems. Professor KRAPP. 6 points.

M., W., and F. at 2.

Prerequisite: Course A1, A2.

31, 32—English Literature from the Norman Conquest to 1550. The first term will be devoted chiefly to Chaucer; the second term will include a general survey of romances, ballads, and other important forms of mediæval literature in England and on the Continent. Professor AYRES. 6 points.

M., W., and F. at 9.

Open to juniors and seniors who have taken at least one elective course in English.

Except by special permission of the instructor, the second term is open only to students who have taken the first term.

33, 34—English Literature of the Victorian Period. Professor HUBBARD. 6 points.

M., W., and F. at 11.

Open to juniors and seniors. Except by special permission of the instructor, the second term is open only to students who have taken the first term.

35, 36—Shakspeare. Professor GILDERSLEEVE and Miss FOX. 6 points.
M., W., and F. at 10.

Prerequisite: Course B1, B2.

Except by special permission of the instructor, the second term is open only to students who have taken the first term.

37-38—English Prose, including Fiction. Professor BREWSTER. 6 points.

Tu. and Th. at 2.

Prerequisite: Course B1, B2.

41-42—English Drama exclusive of Shakspeare. First term: the drama to the closing of the theatres in 1642; second term: the drama from the closing of the theatres to 1900. Professor TASSIN. 6 points.

M., W., and F. at 2.

Prerequisite: Course B1, B2.

45-46—English Literary Criticism. Professor HUBBARD. 6 points.

Tu. and Th. at 11.

Open, by special permission of the instructor, to juniors and seniors who have taken at least one elective course in English.

†71, 72—Nineteenth Century Writers. Professor BAKER. 4 points.

M. and W. at 2.

With the consent of the Department of English and the Committee on Instruction, certain courses in the Graduate School are open to especially qualified seniors.

FINE ARTS

†59, 60—Art Appreciation; History of Art. Professor DOW. 4 points.

Tu., 4-5.30.

French. See Romance Languages and Literatures.

GEOGRAPHY

†51, 52—General Geography. Miss C. B. KIRCHWEY. Lectures and laboratory work. 6 points.

M., 9-11; W. and F. at 10.

Laboratory fee, \$2.

Open to all undergraduate students.

GEOLOGY¹

1, 2—General Geology. Elementary course. The time-honored subjects of physical, structural, dynamical, stratigraphical, and historical geology are treated as parts of a single subject, from the point of view, first of processes and their results, later of the history of the earth. Pro-

¹ In the reckoning of points for major and minor subjects, geology and mineralogy may be counted as one subject.

fessor OGILVIE, Mr. CHRISTENSEN, and Miss RAEDER. 2 lectures, 2 hours of laboratory work. 6 points.

Tu. and Th. at 9. Laboratory or field work, M., Tu., W., or Th., 1-3 or 2-4.

Students who have had no previous scientific training are advised to take 1a, 2a with 1, 2.

1a, 2a—Laboratory work and a few lectures supplementary to 1, 2 and to Mineralogy 17-18. Professor OGILVIE and Miss RAEDER. 2 points.

Hours to be arranged.

16—North American Index Fossils. A study of selected species of fossils characteristic of the various geological horizons. Mr. CHRISTENSEN and Miss RAEDER. 1 lecture, 4 hours of laboratory work. 3 points.

Hours to be arranged.

Prerequisite: Courses 1, 2, and 21.

This course is intended to acquaint the student with those common and characteristic North American fossils which it is absolutely necessary to know for purposes of determining the age of the geological formations of North America. It is a prerequisite to Course 205-206 at Columbia.

17, 18—Glacial Geology and Physiography. One lecture weekly on the past glacial periods, their causes and their after-effects. Professor OGILVIE. 2 points.

Hours to be arranged.

Prerequisite or parallel: Course 1, 2.

19—Physiographic Geology. Professor OGILVIE and Miss RAEDER. 1 lecture and 2 hours of laboratory work. 2 points.

M. at 10.

Prerequisite or parallel: Course 1, 2.

Courses 17 and 19 may be taken together; and if followed by either Course 2 or Course 20 will constitute a full year of science.

20—Historical Geology. History of the earth considered in greater detail than in Course 2. Professor OGILVIE and Mr. CHRISTENSEN. 2 points, if taken subsequent to Course 2; 3 points, if substituted for Course 2 and taken in combination with the regular field and laboratory work in Course 2.

M. and W. at 10. Laboratory hours identical with Course 2.

21, 22—Palæontology. A systematic study of the development of life. Professor OGILVIE and Mr. CHRISTENSEN. 4 points.

Hours to be arranged.

23, 24—Local Geology of New York. Field work in autumn and spring; laboratory work and lectures on local topics in winter. Professor OGILVIE. 2 points.

S., field work for the whole or half day, Oct., Nov., April and May; in other months, laboratory or lecture, S. at 10.

This course may be taken in connection with any other course in geology.

113—Summer Field Course. Professor OGILVIE. 2 weeks in the field involving the subsequent preparation of a report. 4 points.

Time to be arranged.

Prerequisite: Course 1, 2.

117, 118—Glacial Geology and Advanced Physiography. Professor OGILVIE. Lectures, reading, field and laboratory work.

Work will be arranged to suit the needs of the students and credit will be given according to the amount accomplished.

Prerequisite: Course 1, 2; prerequisite or parallel: Course 17, 18.

119, 120—General Geology. Advanced Course. Professor OGILVIE. Lectures, reading, field and laboratory work.

Work will be arranged to suit the needs of the students and credit will be given according to the amount accomplished.

Prerequisite to Course 119: Course 1, 2.

123, 124—Field and laboratory work of Course 23, 24 with additional study of assigned topics. Professor OGILVIE.

Credit will be given according to the amount of work accomplished.

Hours to be arranged.

Open to advanced students only.

Journal Club—The advanced students and instructors in Columbia University meet one evening fortnightly for the discussion of current papers and problems. The meetings of the Journal Club are open to Barnard students taking courses in geology.

GERMANIC LANGUAGES AND LITERATURES

A1-A2—Elementary Course. Mr. BECHERT, Dr. PORTERFIELD, and Dr. HASKELL. 6 points.

Sections I and II, M., W., and F. at 10; Section III, at 11; Section IV, at 2.

Prescribed for freshmen who did not present elementary entrance German.

1-2—Intermediate Course. Reading, Grammar, and Composition. Dr. PORTERFIELD and Dr. HASKELL. 6 points.

Section I, M., W., and F. at 9; Section II, at 1.

Prerequisite to Course 1: Course A1-A2 or elementary entrance German.

Prerequisite to Course 2: Course 1 or intermediate entrance German.

3-4—Composition and Colloquial Practice. Elementary Course. Drill in German syntax and idiom. Mr. BECHERT. 4 points.

Section I, Tu. and Th. at 9; Section II, at 11.

Prerequisite: Course 1-2, or intermediate entrance German. This course may be elected only in combination with Course 5-6, or 7, 8.

5-6—Selected Dramas of Lessing, Goethe, and Schiller. Texts and essays. Professor BRAUN, Mr. BECHERT, and Dr. PORTERFIELD. 6 or 8 points.

Section I, M., W., and F. at 9; Section II, at 11; Section III, at 1.

Prerequisite: Course 1-2, or, with the consent of the department, intermediate entrance German.

7, 8—Modern German Prose. Rapid reading of selections from the prose writings of Lessing, Goethe, Schiller, and of modern German historians, essayists, and critics. Dr. PORTERFIELD. 6 points.

M., W., and F. at 2.

Prerequisite: Course 1-2, or, with the consent of the department, intermediate entrance German.

9, 10—Intermediate Practice Course. Conversation and themes on German life, literature, and current events, all in German. Professor BRAUN. 4 points.

Tu. and Th. at 10. A second section may be arranged.

Prerequisite: Course 3-4, or 5-6, or 7, 8.

May be elected only in combination with another German course more advanced than 3-4.

11, 12—Colloquial Practice. Advanced Course. Informal meetings with the instructors for German conversation only. Professor BRAUN and Dr. HASKELL.

Section I, M. and W. at 11; Section II, Tu. and Th. at 2.

A fair degree of proficiency is regarded as a prerequisite, but students must apply in person to the instructor for permission to register in this course. The class will be limited in membership, and will be divided as far as possible into small groups to meet twice a week for practice in German conversation. There will be no examinations, and the course cannot be counted toward a degree.

21, 22—Goethe. Life and Selected Works. Texts, reports, and lectures. Dr. HASKELL. 6 points.

M., W., and F. at 9.

The first term is open to qualified students who have taken Course 5-6 or 7, 8; the second term, except by special permission of the instructor, is open only to those who have passed the first term satisfactorily.

[23, 24—Schiller. Life and Selected Works. Texts, reports, and lectures. Dr. HASKELL. 6 points.

Not given in 1912-13. To be given in 1913-14.]

25-26—Selected Dramas of the Nineteenth Century. Texts of repre-

sentative dramatists, such as Kleist, Grillparzer, Hebbel, Ludwig, Sudermann, Hauptmann; reports and essays. Professor BRAUN. 4 points.

Tu. and Th. at 9.

Prerequisite: Course 5-6.

27-28—Romantic Fiction and Poetry. Representative selections of epic prose and lyric poetry of various Romantic writers. Reading and lectures, discussions and reports. Dr. PORTERFIELD. 6 points.

M., W., and F. at 10.

Prerequisite: Course 5-6.

37, 38—History of German Literature from the earliest times to the nineteenth century. Lectures, themes, and readings from Thomas's *Anthology of German Literature* and other texts. Professor THOMAS. 4 points.

Tu. and Th. at 10.

The first term is open to juniors and seniors who have taken Course 5-6 or 7, 8; the second term, except by special permission of the instructor, is open only to those who have passed the first term satisfactorily.

39, 40—Goethe's Faust; First and Second Parts. Lectures and recitations. Professor BRAUN. 4 points.

Tu. and Th. at 1.

The first term is open to juniors and seniors who have taken Course 5-6 or 7, 8; the second term, except by special permission of the instructor, is open only to those who have passed the first term satisfactorily.

Courses 105, German Literature from 1796 to 1871, Professor THOMAS; 106, Contemporary German Literature, Professor TOMBO; 107, History of the German Language, 108, the German of To-day, Professor REMY; 113-114, Middle High German, Professor REMY; 129-130, History of German Civilization, Dr. RICHARD, given at Columbia University, are open, with the consent of the Department of German and the Committee on Instruction, to properly qualified seniors. For fuller information students are referred to the Announcement of the Division of Modern Languages and Literatures.

Greek. See Classical Philology.

HISTORY

A1-A2—Epochs of European History, with special reference to forms of government and changes in social conditions. Professor MUZZEY and Miss HUTTMANN. 6 points.

Sections I and II, Tu., Th., and S. at 9 (these sections are intended for students in the 11 o'clock section of English B); Sections III and IV, Tu., Th., and S. at 10; Section V, Tu. and Th. at 1 and W. at 2. (Each section is limited to 35 students.)

Prescribed for sophomores, but may be taken as an elective by freshmen. This course is prerequisite to all the courses enumerated below.

Students who pass the entrance examination in mediæval and modern history may,

with the permission of the Department of History, substitute for **History A1-A2**, as the prescribed work, one of the courses in history numbered less than 100, provided that the total number of points of credit attached to the course be not less than six.

3—Greece. Professor BOTSFORD. 3 points.
M., W., and F. at 1.

[4—Early Italy. Professor BOTSFORD. 3 points.
Not given in 1912-13.]

Courses 3-4 and 5-6 are given in alternate years.

[5-6—The Roman Empire. Professor BOTSFORD. 6 points.
Not given in 1912-13.]

9, 10—European History, modern and contemporaneous. Professor SHOTWELL and Miss HUTCHINSON. 8 points.
M., W., and F. at 2, and a fourth hour to be arranged.

11, 12—English History, with special reference to the history of continental Europe. Professor MUZZEY. 6 points.
Tu. at 2, and Th. 2-4.

13-14—History of the United States to the war with Mexico. Professor MUZZEY. 6 points.
Tu. and Th. at 1 and a third hour to be arranged.

15-16—History of the United States since the war with Mexico. Professor SHEPHERD. 4 points.
M. and W. at 11.

†51-52—Literature of American History. Professor JOHNSON. 4 points.
Tu. and Th. at 3.

121, 122—The History of the Intellectual Class in Europe. Professor ROBINSON and Miss HUTTMANN. 8 points.
Tu. and Th., 2-4.

Courses 117, History of Rome to the End of the Republic, Professor BOTSFORD; 156, The Social and Industrial History of Modern England, Professor SHOTWELL; 169-170, The Expansion of Europe, Professor SHEPHERD, given at Columbia University, are open, with the consent of the Department of History and the Committee on Instruction, to properly qualified seniors. For fuller information students are referred to the Announcement of the Division of Economics, History, and Public Law.

Italian. See Romance Languages.

Latin. See Classical Philology.

MATHEMATICS

A1, A2—Geometry, Algebra, and Trigonometry. Solid geometry; algebra, including permutations and combinations, determinants, and logarithms; trigonometry, including the use of tables, the solution of triangles

and the important analytical formulæ. Professor KASNER, Dr. CURTIS, Dr. DINES, and Mr. FISCHER. 6 points.

Sections I and II, M., W., and F. at 9; Sections III and IV, M., W., and F. at 10; Section V, M., W., and F. at 11; Sections VI and VII, Tu., Th., and S. at 9.

Mathematics A₁, A₂ (except such parts—solid geometry, algebra, or trigonometry—as were passed for entrance) is prescribed for all freshmen.

During the second half-year, Mathematics A₁, will be repeated on Tu., Th., and S. at 10, for students who enter in February.

21—Analytical Geometry. Introduction to the analytical geometry of the plane and of space. Professor KASNER and Dr. DINES. 3 points.

Section I, M., W., and F. at 9; Section II, at 10.

Prerequisite: Course A₁, A₂, or advanced entrance mathematics.

22—Calculus. Elementary course in the differential and integral calculus. Professor KASNER and Dr. DINES. 3 points.

Section I, M., W., and F. at 9; Section II, at 10.

Prerequisite: Course 21.

23–24—Theory of Equations. Algebraic and numerical solution of equations, determinants, complex numbers. Dr. CURTIS. 6 points.

M., W., and F. at 2.

Prerequisite: Course A₁, A₂.

25, 26—Calculus. Differential and integral calculus. Professor COLE. Course 25, 2 points; Course 26, 4 points.

M., W., and F. at 11.

Prerequisite: Course 22.

27–28—Projective Geometry. Projective methods of pure geometry. Dr. DINES. 6 points.

M., W., and F. at 1.

Prerequisite: Course 21.

[31–32—Advanced Analytical Geometry. Modern methods in analytical geometry; solid analytical geometry. Dr. CURTIS. 6 points.

Prerequisite or parallel: Course 25, 26.

Not given in 1912–13.]

33–34—The Fundamental Concepts of Modern Mathematics. Lectures, discussions, and reports. Professor KASNER. 6 points.

M., W., and F. at 11.

Prerequisite: Course 25, 26.

[35–36—General Introduction to Higher Mathematics. Professor KASNER. 6 points.

Prerequisite: Course 25, 26.

Not given in 1912–13.]

†151-152—**History of Mathematics.** Professor D. E. SMITH. 4 points.
M. and W. at 4.

MINERALOGY¹

17-18—**General Mineralogy.** Professor OGILVIE and Mr. CHRISTENSEN.
4 points.

Hours to be arranged.

Prerequisite: some previous scientific training; or parallel: Chemistry 5-6, or Geology 1a, 2a.

MUSIC

[*1-2—**General Musical Course.** History of music from Palestrina to the death of Beethoven, with illustrations. Professor MASON. 4 points.

This course requires no previous knowledge of music.

Not open to Barnard students 1912-13.]

*3-4—**General Musical Course, advanced.** Discussion of modern music. Professor MASON. 4 points.

Tu. and Th. at 11.

Prerequisite: Course 1-2. Students who have not taken Course 1-2, will be admitted, but will be required to take a special examination during the first few weeks showing a general knowledge of the chief contributions to music of the classic masters—Bach, Haydn, Mozart, Beethoven. Such a knowledge may be obtained by reading Surette and Mason's: *The Appreciation of Music*.

*7-8—**Harmony.** Mr. WARD. 6 points.

M., W., and F. at 11.

Prerequisite: a knowledge of musical notation.

*9-10—**Advanced Harmony and Elementary Form.** Professor MASON.
4 points.

M. and W. at 2.

Prerequisite: Course 7-8.

*11-12—**Counterpoint.** Professor MASON. 4 points.

M. and W. at 3.

Prerequisite: Course 7-8.

*13-14—**Composition and Orchestration.** Professor RUBNER. 4 points.
Th. 10-12.

Prerequisite: Course 9-10.

Course 101-102, Advanced Composition, Orchestration, and Symphonic Form,

¹ In the reckoning of points for major or minor subjects, mineralogy and geology may be counted as one subject.

Professor RUBNER, given at Columbia University, is open, with the consent of the Department of Music and the Committee on Instruction, to properly qualified seniors.

For fuller information regarding the various courses in music, students are referred to the Announcement of the Faculty of Fine Arts.

PHILOSOPHY AND PSYCHOLOGY

Philosophy

A1, A2—Introductory Course. Psychology and Logic. Professor MONTAGUE, Drs. BROWN and HOLLINGWORTH. 6 points.

Philosophy **A1P** and **A2P** are identical psychology courses. Philosophy **A1L** and **A2L** are identical logic courses. Two half-year courses, one psychology (**A1P** or **A2P**) and the other logic (**A1L** or **A2L**) are prescribed for sophomores and may be taken in any combination desired.

A1P, A2L, Section I, M., W., and F. at 9; Section II, at 11. **A1L, A2P**, Section III, at 10; Section IV, at 11.

21-22—Ethics. Professor LORD. 8 points.

M., W., and F. at 1.

Prerequisite: Course **A1, A2**.

61-62—The History of Philosophy. Professor MONTAGUE and Dr. BROWN. 8 points.

M., W., and F. at 9.

Prerequisite: Course **A1, A2**.

79-80—Contemporary Philosophy. Dr. BROWN. 6 points.

Tu. and Th. at 9.

Prerequisite: Course **A1, A2**.

Courses **121, 122**, Psychological Ethics, Professor DEWEY; **169-170**, The Philosophy of Plato and Aristotle, Professor WOODBRIDGE and Dr. BUSH, given at Columbia University, are open, with the consent of the Department of Philosophy and the Committee on Instruction, to properly qualified seniors. For fuller information students are referred to the Announcement of the Division of Philosophy, Psychology, and Anthropology.

Psychology

For the elementary course in psychology which is prerequisite to all other courses in this subject, see Philosophy **A1P** or **A2P**.

7-8—Experimental Psychology, Introductory Course. Dr. HOLLINGWORTH. 2 lectures and 3 hours of laboratory work. 6 points.

Tu. and Th. at 2; laboratory work, M. and W. or Tu. and Th. afternoons.

9-10—Experimental Psychology, Intermediate Course. Dr. HOLLINGWORTH. 2 lectures, conference and laboratory work. 6 or 8 points.

Tu. and Th. at 1; laboratory work M., Tu., W., and Th. afternoons.

Prerequisite: Course **7-8**.

Courses at Columbia University numbered over 100 in analytic, experimental, physiological, pathological, and genetic psychology, given by Professors CATTELL, WOODWORTH, and THORNDIKE, are open to specially qualified seniors with the consent of the Department and the Committee on Instruction. For details of these courses see the Announcement of the Division of Philosophy, Psychology, and Anthropology.

PHYSICAL EDUCATION

†**A1, A2**—Lectures on personal hygiene, elementary athletics, games, and dancing. Miss BEEGLE. 2 hours. 2 points.

Section I (general gymnastics and elementary dancing), M. and W. at 3; Section II (general athletics), at 4; Section III (advanced dancing), Tu. and Th. at 11.

Gymnasium fee, \$7.

Prescribed for freshmen.

†**B1, B2**—Lectures on hygiene and sanitation, athletics, games, and dancing. Miss BEEGLE. 2 hours. 2 points.

Section I (dancing), Tu. and Th. at 10; Section II (general gymnastics), at 3.

Gymnasium fee, \$7.

Prescribed for sophomores.

†**C1-C2**—National, folk, and æsthetic dancing. Miss BEEGLE. 2 hours.

Tu. and Th. at 2. (Hours subject to change.)

Gymnasium fee, \$7.

Open to juniors and seniors. This course cannot be counted for a degree.

D1-D2—Hygiene and Public Health Problems. Miss BEEGLE. 2 points. M. at 1.

Prescribed as an alternative for freshmen and sophomores who have been excused from Course **A** or **B** by the Director of Physical Education.

NOTE—Indoor basket-ball, hockey, and base-ball practice in the gymnasium on M. at 5; Tu. at 4; and S. at 12.

An annual gymnasium fee of \$7 is required of every student in Barnard College. This entitles the student to a locker and the use of the gymnasium, swimming-pool, hand-ball courts, and bowling alleys at scheduled hours.

For detailed description of other courses in Hygiene and Physical Education, offered by the Faculty of Teachers College, and open to Barnard College students, see the Announcement of Teachers College or of the Division of Physical Education.

PHYSICS

1-2—Elementary Course in General Physics. Professor MALTBY and Miss SANDFORD. 5 hours, lectures, discussions, and laboratory work. 6 points.

M., W., and F. at 11.

This course is intended for students who have no previous knowledge of physics.

11-12—General Physics. Mechanics and sound, first half-year; heat, magnetism, electricity, and light, second half-year. Professor MALTBY

and Miss SANDFORD. 5 hours, lectures, discussions, and laboratory work. 6 points.

Tu. and Th. at 11, and a third hour to be arranged.

Prerequisite: entrance physics.

31—Mechanics. Miss LANGFORD. 3 hours, lectures and discussions, and 2 or 4 hours of laboratory work. 4 or 5 points.

Hours to be arranged.

Prerequisite: Course 11-12, except by special arrangement.

32—Heat and the Properties of Matter. Miss LANGFORD. 3 hours, lectures and discussions, and 2 or 4 hours of laboratory work. 4 or 5 points.

Hours to be arranged.

Prerequisite: Course 31, except by special arrangement.

33—Sound. Professor MALTBY. 3 hours, lectures and discussions, and 2 or 4 hours of laboratory work. 4 or 5 points.

Hours to be arranged.

Prerequisite: Courses 31 and 32, except by special arrangement.

34—Light. Miss LANGFORD. 3 hours, lectures and discussions, and 2 or 4 hours of laboratory work. 4 or 5 points.

Hours to be arranged.

Prerequisite: Course 11-12.

35—Electricity and Magnetism. Miss LANGFORD. 4 or 5 points.

Hours to be arranged.

Prerequisite: Courses 31 and 32.

36—Electricity. Miss LANGFORD. 4 points.

Hours to be arranged.

Prerequisite: Courses 31, 32, and 35.

138—Theory of Electricity. Professor MALTBY. 3 points.

Hours to be arranged.

Prerequisite: Courses 31, 32, 34, 35, 36.

145-146—Physical Chemistry. Professor MALTBY. 8, 10, or 12 points.

Hours to be arranged.

Prerequisite: Courses in general physics, chemistry—organic and inorganic—and the elements of calculus. May be taken as a minor by candidates for the degrees of A.M. and Ph.D.; or with a thesis as a major for the degree of A.M.

Psychology. See Philosophy and Psychology

ROMANCE LANGUAGES AND LITERATURES

French

A1, A2—Elementary Course. Mr. MULLER, Mr. FORTIER, and Mr. ———. 6 points.

Section I, M., W., and F. at 9; Section II, at 10; Section III, intended primarily for Teachers College students, at 3.

Prescribed for students who did not present French at entrance.

B₁, B₂—Reading, Composition, Syntax. Mr. MULLER and Mr. ———. 6 points.

Sections I and II, M., W., and F. at 11, Section III, at 2.

Prerequisite to Course **B₁**: Course **A₁, A₂**, or elementary entrance French.

Prerequisite to Course **B₂**: Course **B₁** or intermediate entrance French.

1, 2—General Introduction to the Study of French Literature. Reading, composition, and lectures. Professors WEEKS and GERIG, and Mr. MULLER. 6 points.

Sections I and II, M., W., and F. at 10; Section III, at 2.

Prerequisite: Course **B₁, B₂** or its equivalent. Except by special ruling of the department, Course **9-10** (Th. at 1) is prescribed as complement for students who entered on intermediate French, or who have taken Course **B₁** only, or who have not received a grade higher than D in Course **B₂**.

3, 4—Modern French Writers, especially the Historians. Compositions and class work entirely in French. Professor JORDAN. 6 points.

M., W., and F. at 1.

Prerequisite: Course **1, 2** or the equivalent of Course **B₂**, with special training in the practical use of the language.

Students taking any of the following electives are advised to take Course **11, 12** at the same time.

5, 6—History of French Literature in the Seventeenth Century. Professor WEEKS. 6 points.

M., W., and F. at 11.

Prerequisite: grade C in Course **1, 2**, or Course **3, 4**.

9-10—Composition. Professor JORDAN. 2 points.

Th. at 1.

Must be taken with Course **1, 2** by students who have presented intermediate French at entrance, or who have taken only Course **B₁**, or who have not received a grade higher than D in Course **B₂**, unless excused, by the department. Can be taken only with Course **1, 2**.

11, 12—Advanced Composition and Conversation. Professor JORDAN. 2 points.

Th. at 2.

Prerequisite: Course **1, 2**.

This course may be taken only in combination with another elective course in French.

Courses **103, 104**, History of French Literature in the Eighteenth Century, Professor LOISEAUX; **105, 106**, History of French Literature in the Nineteenth Century, Professor WEEKS; **111, 112**, French Literature in the Sixteenth Century, Professor GERIG; **113**,

114, Old French, Professor TODD, given at Columbia University, are open, with the consent of the Department of Romance Languages and Literatures and the Committee on Instruction, to properly qualified seniors. For fuller information students are referred to the Announcement of the Division of Modern Languages and Literatures.

Italian

1, 2—Elementary Course. Grammar, reading, composition. Professor LIVINGSTON. 6 points.

M., W., and F. at 1.

This course may not be taken at the same time with Spanish **1, 2**.

3, 4—General Introduction to the Study of Italian Literature. Mr. BIGONGIARI. 6 points.

M., W., and F. at 9.

Prerequisite: Course **1, 2**.

Courses **131**, Italian Literature of the Fourteenth Century, exclusive of the *Divina Commedia*, **132**, Italian Literature of the Fifteenth Century, **137, 138**, Critical Study of Dante's *Divina Commedia*, all by Professor LIVINGSTON, given at Columbia University, are open, with the consent of the Department of Romance Languages and Literatures and the Committee on Instruction, to properly qualified seniors. For fuller information students are referred to the Announcement of the Division of Modern Languages and Literatures.

Spanish

1, 2—Elementary Course. Grammar, reading, composition. Mr. IMBERT. 6 points.

M., W., and F. at 10.

This course may not be taken at the same time with Italian **1, 2**.

3, 4—General Introduction to Spanish Literature. Grammar, reading, composition. Professor LOISEAUX. 6 points.

M., W., and F. at 11.

Prerequisite: Course **1, 2**.

Courses **143, 144**, the Spanish Comedia, given at Columbia University, are open, with the consent of the Department of Romance Languages and Literatures and the Committee on Instruction, to properly qualified seniors. For fuller information students are referred to the Announcement of the Division of Modern Languages and Literatures.

Romance Philology

Courses **151, 152**, Introduction to Romance Philology, Phonology (first half-year), Morphology (second half-year), Professor TODD, are open under the same conditions to properly qualified seniors.

Sociology. See Economics and Social Science.

Spanish. See Romance Languages.

ZOOLOGY

1-2—General Biology and General Zoölogy. Elementary course. Professors CRAMPTON and OSBURN, Miss DEDERER, and Dr. GREGORY. 2 lectures and 4 hours of laboratory work. 8 points.

Tu. and Th. at 1. Laboratory work, Tu. and Th., or W. and F., 2-4. Laboratory fee, \$5.

Open to sophomores, juniors, and seniors; especially designed for students of physiology, geology, and medicine, as well as for those who intend to pursue zoölogy and botany.

3—Histology. Miss DEDERER. 1 lecture and 2 hours of laboratory work. 2 points.

W. at 9; laboratory work, W., 10-12 preferably.

Laboratory fee, \$2.50, unless taken with Course 1.

Prerequisite or parallel: Course 1. Recommended as a parallel to Course 1.

4—Embryology. Professor OSBURN. 1 lecture and 2 hours of laboratory work. 2 points.

W. at 9; laboratory work, W., 10-12 preferably.

Laboratory fee, \$2.50, unless taken with Course 2 or Course 102.

Prerequisite or parallel: Course 1-2. Recommended as a parallel to Course 2.

5—General Biology. The general principles of biology, variation, inheritance, evolution, geographical distribution, animal coloration, and related topics. Professor CRAMPTON. 2 points.

Hours to be arranged.

Laboratory fee, \$1.25.

Prerequisite: Course 1-2.

This course supplements the general discussions given in Courses 1-2 and 101-102 and gives opportunity for a more critical and extended treatment of general principles. This course may be withdrawn in case there is not sufficient demand for it.

6—Experimental Biology. An introduction to the experimental study of growth, reactions to stimuli, development, inheritance, and related topics. Professor CRAMPTON. 2 points.

Hours to be arranged.

Laboratory fee, \$1.25.

Prerequisite: Course 1-2.

This course gives opportunity to undergraduates to become familiar with some of the methods and results of experimental research, and forms a desirable preparation for graduate work in experimental subjects.

This course may be withdrawn in case there is not sufficient demand for it.

7-8—Human Biology. General human anatomy, physiology, and biological relations, in comparison with other animal organisms. Pro-

fessors CRAMPTON and OSBURN, and Dr. GREGORY. 2 lectures and 2 hours of laboratory demonstrations or conference. 6 points.

M., W., and F. at 10, and one hour to be arranged.

Laboratory fee, \$2.50.

Open to students who have not previously taken Course 1-2. This course cannot be counted as fulfilling the prescribed requirement in science for the A.B. or B.S. degree.

This course may be withdrawn in case there is not sufficient demand for it.

53-54—Practical Zoölogy and Embryology. Miss DEDERER. 4 hours of conference and laboratory work. 4 points.

Hours to be arranged.

Laboratory fee, \$5.

Prerequisite: Course 1-2.

This course is designed for students of zoölogy desiring practice in the preparation and mounting of zoölogical, histological, and embryological materials for microscopic examination.

101-102—General Zoölogy. Advanced course. Professors CRAMPTON and OSBURN, Miss DEDERER, and Dr. GREGORY. 3 lectures and 6 hours of laboratory work. 12 points.

M., W., and F., 9-12.

Laboratory fee, \$5.

Prerequisite: Courses 1-2, and 4.

This course is designed for students intending to enter medicine, also for students of zoölogy and botany, as graduate subjects.

151-152—General Physiology. General principles of animal physiology. Professor OSBURN and Dr. GREGORY. 2 lectures and 4 hours of demonstration and laboratory work. 8 points.

Tu. and Th., 9-12.

Laboratory fee, \$5.

Open to juniors and seniors. This course is designed for students of zoölogy, botany, and psychology, as well as for students intending to study medicine, and may be taken together with, or subsequent to, Course 1-2.

SCHEME OF

HOURS	MONDAY	TUESDAY	WEDNESDAY
A.M.			
9	*Architecture 23-24 Botany 51-52 †Education 107-108 English 31, 32 French A1, A2 (I) †Geography 51, 52 German 1-2 (I) German 5-6 (I) German 21, 22 Greek 13, 14 Italian 3, 4 Latin 9-10 Latin 11, 12 Mathematics A1, A2 (I, II) Mathematics 21, 22 (I) Philosophy A1P, A2L (I) Philosophy 61-62 Zoology 101-102	Astronomy 3, 4 Botany 153, 156 Chemistry 41-42 Economics A1-A2 (I) †Education 105-106 English B1, B2 (I, III, V) Geology 1, 2 German 3-4 (I) German 25-26 History A1-A2 (I, II) Latin A1, A2 (V, VI, VII) Mathematics A1, A2 (VI, VII) Philosophy 79-80 Zoology 151-152	Botany 51-52 †Education 107-108 English 31, 32 French A1, A2 (I) German 1-2 (I) German 5-6 (I) German 21, 22 Greek 13, 14 Italian 3, 4 Latin 11, 12 Mathematics A1, A2 (I, II) Mathematics 21, 22 (I) Philosophy A1P, A2L (I) Philosophy 61-62 Zoology 3, 4 Zoology 101-102
10	English A1L, A2C (VI) English 25, 26 English 35, 36 French A1, A2 (II) French 1, 2 (I, II) †Geography 51, 52 Geology 19, 20 German A1-A2 (I, II) German 27-28 †Latin 51-52 Mathematics A1, A2 (III, IV) Mathematics 21, 22 (II) Philosophy A1L, A2P (III) Spanish 1, 2 Zoology 7-8 Zoology 101-102	*Architecture 21-22 Botany 53-54 Chemistry 63, 64 Economics A1-A2 (II, III) Economics 111, 112 †Education A (II, III) †Education B (V) †Education 21-22 (I) English A1, A2 (I, II, III) English 1, 2 English 23, 24 German 9, 10 German 37, 38 Greek 9-10 Greek 15, 16 History A1-A2 (III, IV) †Physical Education B1, B2 (I) Zoology 151-152	†Education A (IV) English A1L, A2C (VI) English 25, 26 English 35, 36 French A1, A2 (II) French 1, 2 (I, II) †Geography 51, 52 Geology 20 German A1-A2 (I, II) German 27-28 †Latin 51-52 Mathematics A1, A2 (III, IV) Mathematics 21, 22 (II) Philosophy A1L, A2P (III) Spanish 1, 2 Zoology 7-8 Zoology 101-102
11	*Architecture 25-26 Chemistry 5-6 *Economics 104 †Education 87, 88 †Education 121-122 English 27, 28 English 33, 34 French B1, B2 (I, II) French 5, 6 German A1-A2 (III) German 5-6 (II) German 11, 12 (I) Greek 11, 12 History 15-16 Latin 31, 32 Mathematics A1, A2 (V) Mathematics 25, 26 Mathematics 33-34 *Music 7-8 Philosophy A1L, A2P (IV) Philosophy A1P, A2L (II) Physics 1-2 Spanish 3, 4 Zoology 101-102	Economics A1-A2 (IV, V) *Economics 106 †Education B English A1, A2 (IV, V) English B1, B2 (II, IV, VI) English 45-46 German 3-4 (II) *Music 3-4 †Physical Education A1, A2 (III) Physics 11-12 Zoology 151-152	Chemistry 5-6 *Economics 104 †Education 87, 88 †Education 121-122 English 27, 28 English 33, 34 French B1, B2 (I, II) French 5, 6 German A1-A2 (III) German 5-6 (II) German 11, 12 (I) Greek 11, 12 History 15-16 Latin 31, 32 Mathematics A1, A2 (V) Mathematics 25, 26 Mathematics 33-34 *Music 7-8 Philosophy A1L, A2P (IV) Philosophy A1P, A2L (II) Physics 1-2 Spanish 3, 4 Zoology 101-102

Courses marked with an asterisk [*] are given at Columbia University;

ATTENDANCE

THURSDAY	FRIDAY	SATURDAY
Astronomy 3, 4 Botany 153, 156 Chemistry 41-42 Economics A1-A2 (I) †Education 105-106 English B1, B2 (I, III, V) Geology 1, 2 German 3-4 (I) German 25-26 History A1-A2 (I, II) Latin A1, A2 (V, VI, VII) Mathematics A1, A2 (VI, VII) Philosophy 79-80 Zoology 151-152	*Architecture 23-24 Botany 51-52 English 31, 32 French A1, A2 (I) German 1-2 (I) German 5-6 (I) German 21, 22 Italian 3, 4 Latin 11, 12 Mathematics A1, A2 (I, II) Mathematics 21, 22 (I) Philosophy A1P, A2L (I) Philosophy 61-62 Zoology 101-102	Astronomy 3, 4 English B2 (I, III) History A1-A2 (I, II) Latin A1, A2 (V, VI, VII) Mathematics A1, A2 (VI, VII)
*Architecture 21-22 Botany 53-54 Chemistry 63, 64 Economics A1-A2 (II, III) Economics 111, 112 †Education A (II, III) †Education B (V) †Education 21-22 (I) English A1, A2 (I, II, III) English 1, 2 English 23, 24 German 9, 10 German 37, 38 Greek 15, 16 History A1-A2 (III, IV) *Music 13-14 †Physical Education B1, B2 (I) Zoology 151-152	†Education A (IV) English A1L, A2C (VI) English 35, 36 French A1, A2 (II) French 1, 2 (I, II) †Geography 51, 52 German A1-A2 (I, II) German 27-28 †Latin 51-52 Mathematics A1, A2 (III, IV) Mathematics 21, 22 (II) Philosophy A1L, A2P (III) Spanish 1, 2 Zoology 7-8 Zoology 101-102	English A1, A2 (I, II, III, IV, V) Geology 23, 24 History A1-A2 (III, IV)
Economics A1-A2 (IV, V) *Economics 106 Economics 118 †Education A English A1, A2 (IV, V) English B1, B2 (II, IV, VI) English 45-46 German 3-4 (II) *Music 3-4 *Music 13-14 †Physical Education A1, A2 (III) Physics 11-12 Zoology 151-152	*Architecture 25-26 Chemistry 5-6 †Education 87, 88 English 33, 34 French B1, B2 (I, II) French 5, 6 German A1-A2 (III) German 5-6 (II) Greek 11, 12 Latin 31, 32 Mathematics A1, A2 (V) Mathematics 25, 26 Mathematics 33-34 *Music 7-8 Philosophy A1L, A2P (IV) Philosophy A1P, A2L (II) Physics 1-2 Spanish 3, 4 Zoology 101-102	†Education 187-188 English B2 (II, IV)

those marked with a dagger [†] are given at Teachers College.

SCHEME OF

HOURS	MONDAY	TUESDAY	WEDNESDAY
P.M.	Anthropology 1, 2 Chemistry 145-146 English 7-8 French 3, 4 German 1-2 (II) German 5-6 (III) Greek 3, 4 History 3 Introductory Science 1-2 Italian 1, 2 Latin A1, A2 (I, II, III, IV) Mathematics 27-28 Philosophy 21-22 Physical Education D1-D2	Astronomy 1, 2 Economics A1-A2 (VI) Economics 117, 118 German 39, 40 History A1-A2 (V) History 13-14 Latin 17, 18 Psychology 9-10 Zoology 1-2	Anthropology 1, 2 Chemistry 145-146 English 7-8 French 3, 4 German 1-2 (II) German 5-6 (III) Greek 3, 4 History 3 Introductory Science 1-2 Italian 1, 2 Latin A1, A2 (I, II, III, IV) Mathematics 27-28 Philosophy 21-22
1.10			
2.10	English B1 (VII) English 29-30 English 41-42 †English 71, 72 French B1, B2 (III) French 1, 2 (III) German A1-A2 (IV) German 7, 8 Greek 1-2 History 9, 10 Mathematics 23-24 *Music 9-10	Classical Civilization 51, 54 †Education 21-22 (II) English 37-38 German 11, 12 (II) Greek 1-2 Greek 41-42 History 11, 12 History 121, 122 †Physical Education C1-C2 Psychology 7-8 †Sociology 51, 52	English B1 (VII) English 29-30 English 41-42 †English 71, 72 French B1, B2 (III) French 1, 2 (III) German A1-A2 (IV) German 7, 8 Greek 1-2 History A1-A2 (V) History 9, 10 Mathematics 23-24 *Music 9-10
3.10	Economics A1-A2 (I-VI) †Education B (VI) French A1, A2 (III) *Music 11-12 †Physical Education A1, A2 (I) *Sociology 151, 152	†History 51-52 History 121, 122 Latin 41, 42 †Physical Education B1, B2 (II)	French A1, A2 (III) *Music 11-12 †Physical Education A1, A2 (I) *Sociology 151, 152
4.10	†Education 119-120 †Mathematics 151-152 †Physical Education A1, A2 (II)	†Fine Arts 59, 60	†Education 119-120 †Mathematics 151-152 †Physical Education A1, A2 (II)
5.10		†Fine Arts 59, 60 (5-5.30)	

Courses marked with an asterisk [*] are given at Columbia University;

ATTENDANCE (Continued)

THURSDAY	FRIDAY	SATURDAY
*Architecture 53, 54 Astronomy 1, 2 Economics A1-A2 (VI) Economics 117, 118 French 9-10 German 39, 40 History A1-A2 (V) History 13-14 Latin 17, 18 Psychology 9-10 Zoology 1-2	Anthropology 1, 2 Chemistry 145-146 English 7-8 French 3, 4 German 1-2 (II) German 5-6 (III) Greek 3, 4 History 3 Introductory Science 1-2 Italian 1, 2 Latin A1, A2 (I, II, III, IV) Mathematics 27-28 Philosophy 21-22	
Classical Civilization 51, 54 †Education 21-22 (II) English 37-38 French 11, 12 German 11, 12 (II) Greek 1-2 Greek 41-42 History 11, 12 History 121, 122 †Physical Education C1-C2 Psychology 7-8 †Sociology 51, 52	English 29-30 English 41-42 French B1, B2 (III) French 1, 2 (III) German A1-A2 (IV) German 7, 8 Greek 1-2 History 9, 10 Mathematics 23-24	
History 11, 12 †History 51-52 History 121, 122 Latin 41, 42 †Physical Education B1, B2 (II)	†Education B (VI) French A1, A2 (III)	

those marked with a dagger [†] are given at Teachers College.

ACADEMIC CALENDAR

1912-1913

- 1912—Sept. 9—Monday, Last day for filing applications for entrance and delinquent examinations in September.
- Sept. 16—Monday, Entrance examinations and examinations for deficient and debarred students begin.
- Sept. 18—Wednesday, Registration begins.
- Sept. 24—Tuesday, Registration ceases for students previously matriculated. Later applications received only upon payment of an additional fee of \$5.
- Sept. 25—Wednesday, First half-year, 24th year, begins.
Registration ceases for students matriculating for the first time. Later applications received only upon payment of an additional fee of \$5.
- Oct. 15—Tuesday, Stated meeting of University Council.
- Nov. 5—Tuesday, Election Day, holiday.
- Nov. 27—Wednesday, University service in St. Paul's Chapel.
- Nov. 28—Thursday,
to
Nov. 30—Saturday, inclusive, Thanksgiving holidays.
- Dec. 17—Tuesday, Stated meeting of University Council.
- Dec. 23—Monday,
to
1913—Jan. 4—Saturday, inclusive, Christmas holidays.
- Jan. 6—Monday, Last day for filing applications for January entrance examinations.
- Jan. 13—Monday, January entrance examinations begin.
- Jan. 22—Wednesday, Mid-year examinations begin.
- Feb. 3—Monday, Registration begins.
- Feb. 4—Tuesday, First half-year ends.
- Feb. 5—Wednesday, Second half-year begins.
University service in St. Paul's Chapel.
Registration ceases for students entering the second half-year. Later applications received only upon payment of an additional fee of \$5.
- Feb. 18—Tuesday, Stated meeting of University Council.
- Feb. 22—Saturday, Washington's Birthday, holiday.

Mar. 20—Thursday,
to

Mar. 24—Monday, inclusive, Easter holidays.

April 1—Tuesday, Last day for filing applications for non-competitive scholarships.

April 15—Tuesday, Stated meeting of University Council.

May 19—Monday, Final examinations begin.

May 30—Friday, Memorial Day, holiday.

June 1—Sunday, Baccalaureate service.

June 4—Wednesday, Commencement Day.

June 11—Wednesday, Second half-year ends.

June 16—Monday, Examinations of the College Entrance Examination Board begin. The dates for filing applications are contained in a circular issued by the Board, Post-office Sub-Station 84, New York, N. Y.

Sept. 8—Monday, Last day for filing applications for entrance or delinquent examinations in September.

Sept. 15—Monday, Entrance examinations and examinations for deficient and debarred students begin.

Sept. 17—Wednesday, Registration begins.

Sept. 23—Tuesday, Registration ceases for students previously matriculated. Later applications received only upon payment of an additional fee of \$5.

Sept. 24—Wednesday, First half-year, 25th year, begins.
Registration ceases for students matriculating for the first time. Later applications received only upon payment of an additional fee of \$5.

